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A Case Study of the Station Rotation Blended Learning Model in a Third Grade Classroom

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A CASE STUDY OF THE STATION ROTATION BLENDED LEARNING MODEL IN A THIRD GRADE CLASSROOM

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ABSTRACT

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The purpose of this study was to provide educators and other individuals who are interested in the Station Rotation blended learning model with an opportunity to peek inside a classroom setting as the model was being implemented in a third grade classroom. Specifically, this study researched what happened in a third grade classroom during an implementation of the Station Rotation blended learning model and the resulting perceptions of the model by the third graders who were part of the study.

One teacher and 31 third graders participated in this case study over the period of a semester. Through a teacher questionnaire, teacher/researcher journals, and observations by a principal, an assistant principal, a literacy instructional coach, a math instructional coach, and the researcher (via video), nine themes emerged that explained what happened during the Station Rotation blended learning implementation. Seven of the themes were directly related to the teacher's actions within the blended classroom: Managing Learning Materials/Work Spaces, Routines, Classroom Management, Technology, Teacher's Role, Logistics of Blended Learning, and Instructional Considerations. Two of the themes, while not actions directly performed by the teacher, still impacted the teacher's decisions during the implementation: Students' Actions and Interruptions to Learning. It was recommended that future blended educators consider

these nine themes as they begin implementing a Station Rotation blended learning model in their classrooms.

Additionally, 31 third grade students participated in student focus group interviews and completed student questionnaires. Five positive and two negative themes emerged that explained the perceptions the students had about the Station Rotation blended learning model. The five positive themes were Content, Technology, Learning, Fun, and Getting Help, and the two negative themes were Challenging Work and Technology. While the students did share two negative themes, the overall perceptions of the Station Rotation blended learning model were very positive.

Finally, recommendations were given to future educators about implementing this model in their classrooms. These recommendations included five lessons for educators who are ready to begin blending learning. The five lessons were (1) give yourself permission to make mistakes and learn with the students, (2) be flexible, (3) start small; you do not have to blend every lesson of every subject every day, (4) it is okay to teach a whole class lesson when needed, and (5) collaborate with other blended learning teachers.

Implications for current and future educational fields were provided including insights into what occurs during a Station Rotation blended learning model within an elementary school classroom and by giving a genuine look at how students in an elementary-aged classroom perceive the Station Rotation blended learning model.

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CHAPTER I

INTRODUCTION

Blended learning has recently become a promising innovation in education. Blended learning is "a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home" (Horn & Staker, 2015, p. 34). According to Horn and Staker (2015) in their book *Blended: Using Disruptive Innovation to Improve Schools*, over the past few years, courses that were originally held in an entirely online learning format have been modified into a blend of online formats and face-to-face formats known as blended learning. In the past, teachers found that many students were not as successful when they were asked to learn in an entirely online learning environment. Students needed at least some opportunity to communicate with their teachers face-to-face in order to ask questions and to develop peer relationships. Parents found that face-to-face learning also provided students with a safe place to learn while they were at work themselves (Horn & Staker, 2015). In the recent past, brick and mortar schools have started looking at the blended learning model as a way to provide differentiation within their traditional walls and have also begun implementing this unique learning environment into their systems. Blended learning has become a meeting point of these two extreme forms of education.

The term "blended learning" in general refers to the use of technology to allow students the opportunity to learn at different times, locations, and paces. Housed within

this term are various models that define how the blended learning looks within the classroom. Many models of blended learning exist in today's classrooms. Four widely accepted models that are being adopted by educators are the following: the Station Rotation model, the Lab Rotation model, the Flex model, and the Flipped Classroom model (Staker & Horn, 2012; Walne, 2012).

The adoption of blended learning in a classroom requires the careful selection of the learning model(s) that will be the most effective for the classroom in which it will be implemented (Horn & Staker, 2015). The Station Rotation model is a blended learning model in which the teacher divides the students within a classroom into three to four groups. These groups rotate through a series of stations, one of which must be technology based (Horn & Staker, 2015; Walne, 2012). A second model is the Lab Rotation model. This model is similar to the Station Rotation model in that students rotate through stations with the big difference being that one of the rotations takes the students into a computer lab (Horn & Staker, 2015; Walne, 2012). The third blended learning model, the Flex model, allows great flexibility in the learning of students. In this model, students spend a lot of their learning through the use of a computer based program while on a school campus. The way the Flex model gets its name is from the flexibility that is built into the students' schedules. Students experiencing this model of blended learning are able to join small group and teacher-guided activities when needed for the best learning opportunities (Horn & Staker, 2015). Finally, the Flipped Classroom model presents an entirely different blended learning experience. This model flips the instruction that would normally occur in the classroom and places it at home in the form of a video. The work that would normally be considered homework is then completed

within the classroom where it is supported by the teacher (Bagby, 2014; Driscoll & Petty, 2014; Horn & Staker, 2015; Khan, 2012; Lage, Platt, & Treglia, 2000; Walne, 2012). For the purpose of this study, the focus within the classroom being observed will be the Station Rotation model.

Currently, blended learning takes place at all levels of education including primary, secondary, and collegiate settings. Each level of education and each classroom within that level looks different. Due to these differences, the model of blended learning that is chosen for the specific learning environment may be different. The implementation of the model chosen will also look differently in each learning environment.

Only in the recent past have limited resources become available to guide practitioners in selecting the appropriate model for their learning environments, and while these resources do address the basic components of blended learning (Bergmann & Sams, 2012; Grincewicz, 2014; Horn & Staker, 2015), they do not always help educators to fully understand the implementation of blended learning models within their classrooms. Many of the resources address the basic structure of the blended learning models, but there is a lack in how to take the first steps to begin blended learning. Another gap in the literature presents itself in the form of potential challenges that may occur during implementation. While a few pieces of literature address challenges such as resistance from parents or students (Bergmann & Sams, 2012) or physical limitations due to the lack of available space within the learning environment (Ross, 2014), much of the current literature does not address the potential challenges that may present themselves when beginning blended learning. Assistance in trouble-shooting the problems that arise

is often not within the literature. Practitioners who are new to the blended learning world are faced with challenges that are seemingly unsurmountable, and when the literature does not provide much support in how to address these challenges, they may begin to feel frustrated with the blended learning experience and may become reluctant to take on new innovations such as blended learning within their own educational environment.

This study was designed to aid educators in understanding the comprehensive implementation of a Station Rotation blended learning model within a classroom and helps to identify some of the challenges that may occur during the implementation. The lived experience of a third grade teacher implementing blended learning in a classroom has the potential to inform the novice blended learning educator. Students' perceptions of the blended learning phenomenon are also provided.

Statement of the Problem

Challenges in the Classroom

As mentioned above, educators beginning to implement blended learning in their classroom are often at a loss for resources on exactly how to implement this model within the classroom setting and on how to address difficulties that may occur. As blended learning is becoming more popular in school districts, this lack in literature will create a challenge that will cause road blocks for teachers who are not as technologically adventurous. These teachers will be able to read books that explain how blended learning brings technology into the classroom to help instruct students in various content areas and how it allows teachers to differentiate their students' learning by working with smaller groups of students and flexing that instruction to meet students' needs (Walne, 2012). The challenge will be when the teachers begin trying to implement the blended learning

models within their classrooms. As these educators attempt to take what they have learned from books, articles, and videos into their own settings, it is possible that they will not have enough guidance to know exactly what to teach in their classrooms (Johnson, 2012). Frustration and eventual release of the blended learning models will occur if the teachers are not supported and educated in the models and challenges that come with the models.

Administrators expecting their staffs to implement blended learning in their schools will need to be informed on the challenges their teachers and students are going to face and will need to be armed with resources to support individuals as they experience blended learning. However, there are many administrators who are not qualified themselves to lead their teachers in this direction (Kumi-Yeboah & Smith, 2014). Teachers and administrators both need resources to guide them. These resources will need to address concerns in pedagogical methods, interactions with students, classroom management in a blended learning environment, and many other considerations.

Instructors who are just beginning to implement blended learning within their classroom may be surprised at the challenges that present themselves. Some challenges, for example, may come in the form of the students or the parents of the students. Bergmann and Sams (2012) share that at times students or parents may push back against the blended learning model. In other words, the students or parents may question the methods and at times will rebel against what they are being asked to do. Orton-Johnson (2009) reports that sometimes students simply do not use the technology that is available to them due to uncertainty as to how to use the tools that are presented for them to use. Orton-Johnson refers to these individuals as "internet rejecters." Benson and Anderson

(2010) present even more challenges such as the blended learning model being too complicated or labor-intensive. They also report that sometimes the teachers may report a lack of confidence in technology which creates a barrier for them when trying to implement blended learning within their classroom. While these are real challenges for educators, there is not much information given in the literature that shows how to handle these challenges. These sorts of concerns are where the literature falls short. Teachers new to blended learning need to be educated in what blended learning is as well as the minute details of what occurs in the blended learning classroom and how to handle the challenges that will undoubtedly present themselves. Therefore, one reason for conducting this study was to share with educators what some of the challenges of implementing a blended learning model in the classroom are and how they were resolved within an elementary classroom.

Lack of Literature

Another reason for conducting this study was to add to the literature on utilizing the Station Rotation model of blended learning within an elementary classroom. There is becoming a larger body of literature around using blended learning at the collegiate level (Francis & Shannon, 2013; Ireland et al., 2008; Snowball, 2014). This literature, however, does not typically address the blended learning models that are found in the elementary classroom. At the university level, blended learning is seen as a method where the students access much of their course content using an online format. This may be in the form of videos, discussion forums, readings, PowerPoint slides, etc. The students then spend time in class with an instructor elaborating, practicing, and extending what they learned online. During the time in class, students may listen to a lecture,

participate in small group work, complete labs, or participate in other face-to-face activities (Ireland et al., 2008; Mason, 2005; Snowball, 2014). This model is unlike the four previously described models of blended learning that are commonly seen in the elementary classroom.

For the studies that are at an academic level that is closer to the elementary environment, whether it is at the elementary level or at the middle school or high school levels, there is a distinct lack of studies being completed concerning the Station Rotation model. Literature is now becoming available around the Flipped Classroom, which slightly resembles that of what blended learning is at the university level. In this model students are presented with information through a technology based format outside of the classroom. This is commonly presented through a video of some sort. The students then work with the teacher during the following class period to expand upon and work with that information (Bergmann & Sams, 2012; Horn & Staker, 2015; Lage et al., 2000). While studies presenting the effects of the Flipped Classroom model are helpful to begin showing the effectiveness of blended learning in the classroom, they do not specifically address the implementation of the Station Rotation model.

The few studies that do address the Station Rotation model are helpful to educators as they begin implementing the blended learning model within their classroom. For example, in their paper, Project TEAMS integrating Technology into Middle School Instruction, Reiser and Butzin (1998) shared how almost 20 years ago a research and development project called Project TEAMS (Technology Enhancing Achievement in Middle Schools) was created to begin bringing technology into the middle school classroom on a regular basis to engage students and help them succeed at a higher level

academically. A portion of this project basically mirrors the Station Rotation model of today. In their paper, they explain how the TEAMS rotations were set up and how they included technology during these rotations. This is the information that is needed by today's educators when they are beginning to implement these models within their own classroom.

Purpose of the Study

The purpose of this case study was to give educators and other individuals who are interested in the Station Rotation model of blended learning an opportunity to peek inside a classroom setting as this model was being implemented. This study uncovered the thought processes that go into blended learning as it was being introduced, practiced, and mastered. The study shares the experiences of a class of third graders who had not previously had the opportunity to learn in a blended learning setting. The perceptions of blended learning from the viewpoint of the third grade student were determined, as were the considerations that the teacher had to make along the journey. Suggestions were made to aid the novice educator in successfully implementing blended learning into the classroom. This information came from two observational periods, each lasting one week, during the course of a semester. During each of the two weeks, five data collection methods were used to observe student learning and to delve into what was occurring in the classroom on both the teacher's and the students' parts.

In between each of these two-week periods, the teacher continued utilizing blended learning models in her instruction. As the data were collected over time, the development of the teacher's and students' blended learning skills were evident. This progression of learning was important to note as it will aid future educators in

understanding how the perceptions and proficiencies of the teacher and students can change after a time of implementing blended learning into their classrooms.

Research Questions

The specific research questions that were addressed are:

Q1 What happens within an elementary classroom as a Station Rotation blended learning model is implemented?

Q2 What are students' perceptions of the Station Rotation blended learning model in an elementary classroom?

Significance of the Study

The significance of this study on the implementation of the Station Rotation blended learning model in a third grade classroom is of value to many individuals. First, this study will aid future blended learning educators in gaining an understanding of what blended learning can look like within a classroom and what considerations need to be made as one decides to implement this model into the classroom. It also shares the intricate pieces that are required to fully implement a blended learning model in the classroom along with the challenges that come with this step away from a traditional classroom style of teaching.

Another way this study is significant is that it contributes to the literature by sharing information about the Station Rotation model. As was mentioned above, there are few studies that specifically address the Station Rotation model at the elementary level. This study was designed to do just that. In addition to specifically addressing the Station Rotation model, this study is also unique to the literature in the fact that it is a case study. Many current studies around blended learning investigate the effectiveness of

a particular model of blended learning in a specified setting. Being that this is a case study, however, the focus was to gain "as full an understanding of the [blended learning] phenomenon as possible" (Merriam, 2009, p. 42). It was also designed to aid in the discovery of "new meaning, extend the reader's experience, or confirm what is known" concerning blended learning (Merriam, 2009, p. 44). For individuals who are already familiar with blended learning, this study will help confirm what they already know and perhaps enlighten them to points they have not previously considered.

Assumptions

It is important to address the assumptions and bias that the researcher holds before starting a study as the experiences that the researcher has previously had can and will influence the way the researcher views the data from the study (Creswell, 2007). The first assumption the researcher held was that all students will have access to technology regardless of their nationality, socioeconomic status (SES), gender, or physical abilities. Today's child has the potential to be immersed in technology from a very young age. Even baby toys now have advanced technology involved to make them work. If children are given opportunities to experience technology as they grow, they will develop the skills naturally that will allow them to be successful technology users and will allow them to keep up in the day-to-day expectations that society will hold for them. Aerschot and Rodousakis (2008) noted that individuals who lack the opportunity to access technology also begin to lose out on "social quality." Social quality pertains to socio-economic security, social inclusion, social cohesion and empowerment. By not having access and by not utilizing newer technologies, students are being set up for exclusion in "fundamental societal activities," such as having the capacity to purchase and sell goods,

[and participating] in economic, social, and political activities (Aerschot & Rodousakis, 2008, p. 318) .Within the classroom, this exposure should be a given. All students should have access to technology.

Another assumption the researcher held is that teachers should be the ones in the school system to guide children towards understanding and using technology and to help bridge the digital divide. According to Mossberger, Kaplan, and Gilbert (2008), digital divide "refers to systematic disparities in information technology access and use based on age, income, education, race, and ethnicity" (p. 470). Teachers are in a position to help bridge this gap by bringing technology to the students and helping them learn how to use it. Unfortunately, a great number of teachers do not feel confident using technology with students in the classroom. Many of these digital immigrants are still trying to figure out how to use technology themselves. With this, there is a need for teachers to become more comfortable with using technology in order to support their students. It is equally important that these teachers are provided with effective resources to show them how to be effective teachers while using technology. Additionally, they need administrative staff and instructional coaches to hold them to high expectations for technology usage while providing them with the support they need to be successful.

Definitions of Terms

In the field of education, as in many fields, common terms are often given various meanings. To aid in the reader's understanding, the following list of definitions clarify the specific terms used.

Blended learning model. "A formal education program in which a student learns at least in part through online delivery of content and instruction with some element

of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home" (Horn & Staker, 2015, p. 34).

Blue books. A workbook with a blue cover designed to help students practice the concepts they are learning in math. These books are completed in a pencil/paper format.

Brick and mortar school. A traditional school that meets in a physical school building.

Digital divide. The "systematic disparities in information technology access and use based on age, income, education, race, and ethnicity" (Mossberger et al., 2008, p. 470)

Digital immigrants. Individuals who did not grow up with technology, but who are now learning the language of technology and are trying to keep up with the Digital Natives.

Digital natives. Individuals who have been born and raised in the technology era. They have been immersed in technology for their entire lives and seem to have been "wired" differently than past generations. Frequent usage of technology has modified their thought patterns (Gu, Zhu, & Guo, 2013; Prensky, 2001).

Flex model. A blended learning model in which the primary portion of a student's learning is accessed in an online format with face-to-face teacher support to aid in the student's learning (Horn & Staker, 2015).

Flipped classroom model. A blended learning model in which students learn academic concepts at home and expand upon that learning in the classroom through a variety of activities and collaboration (Kiger, Herro, & Prunty, 2012); "a course

or subject in which students participate in online learning off-site in place of traditional homework and then attend the brick-and-mortar school for face-to-face, teacher-guided practice or projects" (Horn & Staker, 2015, p. 55).

Lab rotation model. A blended learning model in which a class rotates between teacher directed instruction and computer based practice/instruction within a computer lab setting (Horn & Staker, 2015).

Online learning. A learning model in which all of the instruction and classwork is completed in an online format. There is no face-to-face interaction between the students and their teacher. The online learning model is a common model at the collegiate levels. This model is different from the flex model in which students also access their content in an online format but do interact with a teacher face-to-face for portions of their learning.

Station rotation model. A blended learning model in which students rotate through various stations within the classroom with at least one of the stations being a technology based station (Horn & Staker, 2015).

Targeted instruction. Targeted instruction is a class period during the day in which students are grouped by their abilities in reading. During this block, teachers provide the students with reading interventions that are specifically geared towards the needs of the group. This class period is sometimes referred to as "TI."

Summary

In chapter one, blended learning was introduced. Some of the concerns around the lack of literature geared towards the teacher in the classroom who wants to try

blended learning were also raised. Later in the chapter, the significance and purpose of a case study that looks at the lived experience of a teacher and her students was presented followed by research questions that delve deep into the happenings in a blended classroom and the experiences of those participating. At the closure of the chapter is a list of terms that help to clarify the meaning of terms that are directly related to this phenomenon.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Thinking back over the past 150 years, life has changed in so many ways. The way land has developed; the medical breakthroughs that have occurred; the shifts that have occurred in freedom of women or African Americans. All of these changes have made a huge impact on the way life is today. Changes can also be seen in the educational and technological worlds as well. The changes in education and technology are what have led up to the current study. Without these changes, the world of blended learning would not be possible, and we could have forever been stuck in a one-room schoolroom with entirely teacher directed instruction. In Khan's book (2012), *The One World School House: Education Reimagined*, we are presented with the idea of moving to a one *world* schoolhouse. Through the use of technology, we are now able to connect students from all around the world to an education that is fit for each one of them. These changes will allow today's students to gain the skills they need to meet the new demands this ever-changing world is presenting to them. A world that is changing so rapidly that educators have to adjust how they approach their instruction in order to prepare today's unique learners for a work field and life that cannot even be imagined today. The challenge is real, but with the help of modern educational and technological systems, the prospect of meeting this challenge is less daunting.

Changes in Technology

History of Technology

Technologies over the past 150 years have brought us from a world that was barely beginning to understand the possibility of long distance communication using a telegraph to being able to instant message someone in the matter of seconds. From 1857 when Queen Victoria sent the first transatlantic telegraph to 1957 when satellite technology was introduced, technology progressed at a comparably slow pace. The telephone was introduced in 1867 and the television in 1925 (Harasim, 2012). With these inventions, a new world of communication was opened that allowed people to stay in touch in a much easier manner and allowed them to learn what was happening in the world around them with greater ease. Through these times, however, technology was not really a part of the classroom.

In the 1960's, computer networks were introduced, which led to quick changes over the next 50 years. In the 1960's, Papert proposed that children would one day be using computers to learn, but instead of embracing this concept and striving to understand how this could be done, people just laughed at him (Harasim, 2012). At this time, technology was still not an integral part of the classroom. Computers were too expensive and large to be used for educating children. The 1970's brought with it the introduction of email and the start of adjunct mode online courses with online communities of practice. Technology finally made its official break into the world of education in the 1980's in higher education through fully online classes. It was also in 1983 when the blended learning model began to emerge (Harasim, 2012).

The next few years were a blur of technology innovations. The World Wide Web was introduced in 1989 and was released to the public in 1990. Universities were adopting large scale online education opportunities. It was also in the 1990's that software for computers began emerging, Google was registered, and learning platforms such as Blackboard were becoming available.

By the turn of the century, the world was much more equipped to communicate using various forms of technology and was ready to use that technology within classrooms. Early in the 21st century, social networks were introduced allowing people even more opportunities to communicate with their friends and family, and in 2004 Facebook was introduced (Harasim, 2012). During these early years of the 21st century, computers were finally small enough and inexpensive enough that schools could bring them into the classrooms to provide more learning tools for students. At this point, technology rich environments included technology in the classroom. This allowed students to begin using technology to complete projects, create PowerPoints, and other similar activities. After just a short period of time, the next step for educators would be to begin using blended learning models to teach.

Changes in Education

History of Technology that Influenced Teaching

As all of these technological changes were happening over the years, there was also a shift in the way teaching happened in the classroom. Years ago, students would simply learn from teachers. Everything that was taught within the classroom came from what the teacher knew or believed—whether the information was correct or not (Khan, 2012). After Gutenberg created movable type and the mechanical printing press, books

were more easily mass printed (Harasim, 2012). This led to teachers teaching information that came not only from their own mind but also from the experts who wrote the books (Khan, 2012). Education was still very much teacher centered with the teacher being the giver of information.

The advances in technologies have provided new ways for teachers and students to gain information. The television allowed viewers to see world events that were happening as they were happening, and as computers developed, a wealth of information was placed at the hands of educators and students through the development of the internet. Even with all of this change in access to information, teachers were still at the center of the classroom.

In 2007, Bergmann and Sams (2012) began using technology to "flip" their classrooms. Little did they know that they were helping to lead a group of educators who would start a trend that would move teachers away from being the center of the classroom. This move would aid in student-centered learning and would help educators begin seeing themselves as facilitators, motivators, and coaches. Khan (2012) also led the way by providing videos online for students to learn from all over the world through a website call Khan Academy (2015). It was the work of educators like these that led to what is known today as blended learning.

All of these past changes are what have led up to today's present educational world. In addition to changes in technologies and to moving from a teacher-centered to a student-centered classroom, there have also been changes in other areas. One area that has recently changed is in the academic standards that have been adopted to guide school districts in what they are required to teach their students. Another change is the

expectation that students are expected to learn and demonstrate 21st Century Skills. Finally, the students themselves have changed. Today's students are very different from those of a generation ago creating unique challenges for teachers who are from a different generational mindset.

Common Core Standards

Education is demanding a new level of rigor that is causing educators to rethink past practices and to redesign how they are teaching today's students. One reason for the greater level of rigor comes from the emphasis of teaching 21st Century Skills and the Colorado Academic Standards (Colorado Department of Education, 2014) to students. The Colorado Academic Standards are a set of educational standards that have been developed to give students a more robust, deeper, and comprehensive understanding of the subjects they are studying (Colorado Department of Education, 2014). The Colorado Academic Standards offer standards in all basic areas of study. They also encompass the Common Core State Standards (Common Core State Standards Initiative, 2015) including reading, writing, communicating, mathematics, social studies, science, world languages, visual arts, comprehensive health and physical education, drama and theatre arts, dance, music, and visual arts. As the Common Core Standards were developed, the focus was on having fewer, clearer standards that were designed for clarity, rigor, and coherence (Colorado Department of Education, 2014; Education Nation, 2013). This is unlike the previous standards which were less clear and demanded a lower level of performance from students.

The development of these standards in students begins when learners first enter elementary school in preschool or kindergarten. Each year, the level of proficiency

builds, and the students gain more skills towards the overall proficiency level. Included here are the kindergarten and high school standards (See Figures 1 and 2). Notice the standards remain the same, but the level of rigor and what is expected of the student has increased dramatically.

Standard	**Grade Level Expectation**
Kindergarten	
1. Number Sense, Properties, and Operations	1. Whole numbers can be used to name, count, represent, and order quantity 2. Composing and decomposing quantity forms the foundation for addition and subtraction
2. Patterns, Functions, and Algebraic Structures	Expectations for this standard are integrated into the other standards at this grade level.
3. Data Analysis, Statistics, and Probability	Expectations for this standard are integrated into the other standards at this grade level.
4. Shape, Dimension, and Geometric Relationships	1. Shapes are described by their characteristics and position and created by composing and decomposing 2. Measurement is used to compare and order objects

(Colorado Department of Education, 2010)

Figure 1. Kindergarten Common Core State Standards

The third grade standards are at a level that have built off of the kindergarten, first, and second grade standards. Since all of these expectations build on one another, it is important that students are reaching these expectations every year. When they do not meet these goals, the students begin to fall behind, and by the time they are in middle school or high school, the holes in their learning make it very difficult for them to understand the higher levels of academic content. Horn and Staker (2015) and Khan (2012) both reference this phenomenon in their writings and indicate the difficulties that are created when students do not acquire all of the knowledge they are expected to learn.

With these changes came a new level of performance expected by students, therefore requiring teachers to both aid their students in utilizing 21st Century Skills while also rising up to the higher expectations of the Common Core Standards. It is not uncommon for teachers, especially those new to the classroom, to be at a loss as to how to teach students to perform at these higher levels. Many of today's teachers were not taught how to complete tasks at this level, so they are not sure how to teach others to think and work at this level, either (Briceño & Nemecek, 2013). In addition to this, there is has also been a trend across the nation to hold teachers to a higher level of accountability through a more intense teacher evaluation process. Within the state that this study is occurring, the new evaluation system for teachers is known as the *State Model Evaluation System for Teachers*. This evaluation system is much more comprehensive than past systems which is causing teachers to feel a higher urgency to assure that their students are making the appropriate growth each year despite the challenges that the higher rigor of the Common Core Standards has presented (Colorado Department of Education, 2014).

Twenty-First Century Skills

Another change that is seen in the educational world is the emphasis on students learning 21st Century Skills. Many professional organizations developed list of 21st Century Skills. These skills include: Communication, Collaboration, Critical Thinking, and Creativity (Assessment & Teaching of 21st Century Skills, 2014; Partnership for 21st Century Skills, 2009, 2011a, 2011b; Reynolds, 2011; Skills at Education Connection, 2015). Blended learning is now enabling teachers to utilize newer resources which will help bridge the typical classroom with the 21st Century Skills that students are now

expected to master (Ortega Gil & Arcos García, 2011). As today's world is rapidly changing, a greater importance is being placed on teaching children skills that will help them be successful in the 21st Century. A closer look at each of the skills shows the level of rigor that is now expected for today's students.

Standard	Grade Level Expectation
High School	
1. Number Sense, Properties, and Operations	1. The complex number system includes real numbers and imaginary numbers 2. Quantitative reasoning is used to make sense of quantities and their relationships in problem situations
2. Patterns, Functions, and Algebraic Structures	1. Functions model situations where one quantity determines another and can be represented algebraically, graphically, and using tables 2. Quantitative relationships in the real world can be modeled and solved using functions 3. Expressions can be represented in multiple, equivalent forms 4. Solutions to equations, inequalities and systems of equations are found using a variety of tools
3. Data Analysis, Statistics, and Probability	1. Visual displays and summary statistics condense the information in data sets into usable knowledge 2. Statistical methods take variability into account supporting informed decisions making through quantitative studies designed to answer specific questions 3. Probability models outcomes for situations in which there is inherent randomness
4. Shape, Dimension, and Geometric Relationships	1. Objects in the plane can be transformed, and those transformations can be described and analyzed mathematically 2. Concepts of similarity are foundational to geometry and its applications 3. Objects in the plane can be described and analyzed algebraically 4. Attributes of two- and three-dimensional objects are measurable and can be quantified 5. Objects in the real world can be modeled using geometric concepts

(Colorado Department of Education, 2010)

Figure 2. High School Common Core State Standards

The Communication skill is designed to look at the way individuals share their thoughts. Specifically, the skills encourage students to share their thoughts in clear and effective manners including oral, written, and nonverbal formats. Communication ties in very tightly with the Collaboration skill. The Collaboration skill states that it is necessary for individuals to communicate well for them to be able to collaborate well. Students should be able to collaborate in various types of teams and in a variety of environments (Partnership for 21st Century Skills, 2011a).

Critical thinking is another skill that students need to develop to be successful in the 21st Century. This skill focuses on the students' abilities to think through and to solve complex problems. Students need to understand systems and how the parts and the whole work together. They are expected to develop effective reasoning skills and to uncover ways to solve conventional and innovative problems (Partnership for 21st Century Skills, 2011a).

The fourth 21st Century Skill is creativity. With this skill, students are provided with tools to create new and innovative ideas. Additionally, they are taught to evaluate and refine their own ideas with the purpose of improving their abilities (Partnership for 21st Century Skills, 2011a). All four of these skills aid students with the development of their abilities through different means; the overall goal of the skills is to prepare students for their role in the future when they will be asked to be leaders (Partnership for 21st Century Skills, 2011a).

These four 21st Century Skills coupled with the Common Core Standards challenge students to perform at levels and in ways that are different from what was expected in the past.

Changes in Today's Students

In addition to the challenges that have come with the Common Core Standards, the State Model Evaluation System for Teachers, and teaching the 21st Century Skills, the students of today also bring unique challenges to the classroom. Teachers are now presented with a unique group of students who are being brought up in a world that is rich in technology and that is rapidly changing. They have been immersed in technology since they were born, and the way they interact with the world is greatly influenced by this technology. The parents of these children were brought up simply watching technology in the form of television. Today's children are being brought up interacting with the technology (Harasim, 2012). The students of today are simply not the same type of students for which the traditional educational system was originally created (Ortega Gil & Arcos García, 2011; Prensky, 2001).

Today's students are intimately familiar with technology and see the world through a different lens because of this. These students are known as "Digital Natives" or "New Millennium Learners" (Gu et al., 2013; Prensky, 2001). Due to the intense presence of technology in their lives, Digital Natives seem to have been "wired" differently than past generations. Their frequent usage of technology has modified their thought processes (Gu et al., 2013; Prensky, 2001). This group of learners has grown up with technology and the effects of technology. Since these students have grown up with technology and have experienced the effects of technology, they have learned how to access information from the technological world they live in and are accustomed to receiving gratification in an instant. A push of a button or a click of a mouse enables them to access information at rates much quicker than we have ever known.

While these students are very able when it comes to using technology, there is becoming a large discrepancy between the technology students are using at home and the technology they are allowed to use at school. In a 2009 U.S. National Online Survey of Web 2.0 and Internet Use, a serious and persistent gap was found between the ways technology in the schools is used to learn and the way technology is interacted and worked with outside of schools (Harasim, 2012; IESD, 2009). Harasim (2012) explains this phenomenon:

> The internet has become a condition of daily life in today's world. It is an integral part of our work, social and personal communication. Yet, this is not true for the world of education. The Internet remains largely extraneous to the "real" work of teaching and learning in the class, where it is treated as an add-on (p. 168).

President Barack Obama points out that "here, in the country that invented the Internet, every child should have the chance to get online" (Vaughan, 2011, p. 3). The Digital Natives of today require a different kind of education that incorporates this technology into their learning.

While providing a different kind of education for the digital native population seems reasonable, a different obstacle is presenting itself when technology changes are attempting to be made. These Digital Natives are unlike many of the teachers in today's classrooms (Prensky, 2001; Pulley, 2014; Tapscott, 2008). The teachers, known as digital immigrants, have to work hard to understand the new generation and to provide an education that is different from their own experiences in order to support the learning of these new students (Prensky, 2001). It is a great challenge to provide these unique learners with instruction that will enable them to access, understand, and utilize information that is now available at the push of a button.

As Digital Natives complete their education, they will be expected to enter into a workforce that will be very different from what we know today. Many of today's students will end up working in jobs that do not even exist in today's world (EF Explore America, 2014; Khan, 2012). This unknown creates a challenge for teachers who are trying to prepare their students for the future.

There is an urgency for teachers to prepare their students for a future that will rely heavily on having a strong education and a vast range of skills due to the new technologies are being created daily and further globalization (Edwards, Crain, & Kalleberg, 2007). Students will need to become "creative, curious, and self-directed lifelong learners who are capable of conceiving and implementing novel ideas" (Khan, 2012, p. 80). As these jobs are created, there is going to be a greater inequality between those with a good education and those lacking education (Edwards et al., 2007). Within the traditional classroom, however, it is not uncommon to find a room filled with high and low performing students, and within this mix, the students will have various gaps in their learnings from previous years. There may also be a mix of students from poverty and those who are not. Each group brings unique perspectives and challenges into the room. Additionally, there is becoming a trend of students whose passion for learning has faded, so while they are physically present in the classroom, they are mentally absent (Ololube, 2011). The task to reach all of these different learners can seem daunting at times.

Teachers are being asked to guide students along this pathway to a future of great unknowns despite frequent changes in curriculum, resources that are diminishing, and a current, traditional school system that tends to only look at the present needs instead of

preparing for the future (Edwards et al., 2007). According to Ololube (2011), the Digital Natives are now demanding that their education be presented in a way that ties into real life application. They expect to be told why they need to learn something, and they must feel that the purpose is important in order to be motivated to learn it. A recently developed teaching model enables teachers to be successful in this endeavor. Through a blend of technology and teacher innovation, students are beginning to acquire the kind of education they need to be self-directed learners (Ololube, 2011) and to be prepared for their future. Blended learning has placed a powerful tool into the hands of today's teachers that aids them in identifying and supporting the academic needs of today's children while giving them the skills that will be necessary in the rapidly changing future. Blended learning has been used in the elementary, secondary, and collegiate classrooms. Over the past few years, a substantial body of literature at the collegiate level has been developed. It is, however, less frequently studied at the elementary level.

Blended Learning

Blended learning is the thoughtful process of using technology alongside a teacher in the classroom to enhance learning for students through the innovative use of technology. This process is reforming the learning structures of today's classrooms (Kumi-Yeboah & Smith, 2014; Martyn, 2003). It aids in the differentiation of instruction to help teachers meet the needs of students in their classes while enhancing and expanding the effectiveness of the teachers overall (Ololube, 2011). There is not just one widely accepted definition when discussing blended learning. When comparing the various definitions, it seems that there are commonalities amongst the many perceptions. These are as follows: part of the instruction must be delivered through an online format,

(Dziuban, Hartman, Cavanagh, & Moskal, 2011; Hogan, 2011; Jacobsen, 2011; Kumi-Yeboah & Smith, 2014; Ololube, 2011; Ortega Gil & Arcos García, 2011; Staker & Horn, 2012), students still engage in face-to-face learning with an instructor (Dziuban et al., 2011; Hogan, 2011; Jacobsen, 2011; Kumi-Yeboah & Smith, 2014; LeNoue & Stammen, 2011; Ololube, 2011; Ortega Gil & Arcos García, 2011; Staker & Horn, 2012), and the instruction does not solely have to take place in the classroom (Ortega Gil & Arcos García, 2011; Staker & Horn, 2012).

For the purpose of this study, blended learning will be defined as "a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home" (Horn & Staker, 2015, p. 34). This definition helps distinguish between instruction that is simply rich in technology (meaning technology is used by a teacher while presenting the instruction) and blended learning (in which a portion of the instruction is delivered by technology).

Benefits Seen from Blended Learning

Instructors who have been teaching a while may ask why they should implement blended learning in the classroom when there are so many different methods of teaching available. Blended learning has many benefits for schools, teachers, and students. Studies are just beginning to show that student performance may improve when technology is used to enhance instruction (Kumi-Yeboah & Smith, 2014; LeNoue & Stammen, 2011). One example of this can be seen in a study by Chen (2012) that was conducted in Taiwan. In this study, 93 third graders from a middle to high

socioeconomic status participated in blended learning opportunities within their school. The students were divided into three groups. One group was the control group that received online access to their instructional materials without any interaction with peers or their teacher. The other two groups were a variation of blended learning. One of the groups used both online resources and interacted with their peers to complete their assignments. The other group used online resources and interacted with their teachers while completing their assignments. This study found that there were significantly higher achievement levels for the students who had both online resources and face-to-face interaction with either their peers or their teacher in comparison to those students who only had the online instruction. In other words, those individuals who participated in blended learning opportunities performed at a higher level than those who did not.

In another article, Kafer reports similar testimonies from educators currently utilizing blended learning in their classrooms (Independence Institute, 2014). She reports that in Truitt's third grade classroom, the teacher saw a 21% improvement in the math performance of her students while using a blended model of the flipped classroom and the Station Rotation model. While this information was based on a short implementation period, it still gives indicators that this model has the potential to be effective over a longer period of time, as well. Within this same report, Kafer referred to another teacher who was seeing similar results in her fourth grade classroom (Independence Institute, 2014). In Hermance's class, the implementation was a bit different, though. She was running a four station rotation during her math block. Like Truitt, Hermance reported that she saw significant increases in her students' math scores. These two examples show the power of blended learning at the classroom level.

The benefits of blended learning go beyond the limitations of just the classroom, however. Kafer also reported that blended learning can make a difference on a larger scale, as well (Independence Institute, 2014). At the Falcon Virtual Academy, blended learning has made a difference at the building level. When this school began its blended learning program, the school was ranked at a Priority Improvement status. In just a four year time period, this school has now moved to an Improvement status.

Numerous university level studies are available to show the success that blended learning is having on student performance (Francis & Shannon, 2013; Ireland et al., 2008; Snowball, 2014). There are, however, few studies that address this topic at the elementary level. The Clayton Christensen Institute for Disruptive Innovation (2015) has been looking at elementary, middle, and high schools who are currently implementing blended learning models within their buildings. It has found that districts that are using blended learning are seeing gains in many of their academic areas, with math having the highest gains in general. On its website, the institute lists out several "proof points" that share the results of what the school districts are seeing.

One such district is the District of Columbia Public Schools in Washington, D.C. In this district, its leaders have redesigned 17 schools, elementary through high school, to include blended learning as a piece of its instruction. They have set up the district so that students can continue through all levels of education using blended learning and will not have to change the style of their instructional methods as they advance from one grade to another. Even the schools that were not specifically redesigned for blended learning still incorporate blended learning models in their programs. This district is noticing that its students who are learning under blended learning models are outperforming students who

are learning under traditional methods. It is also seeing that in reading, those individuals who are learning with the blended learning models were more likely to perform higher on the state's reading assessments.

Horry County in Conway, South Carolina, is another school district that is seeing the benefits of incorporating blended learning. This district began with a middle school initiative to introduce blended learning into its middle schools. It quickly expanded this model into the elementary and high schools. This district is working towards a 1:1 model in which there is one computer for every student. The district has seen much growth since the implementation of these models. The middle school level has seen the most growth in both reading and math; this is also where the highest level of implementation has occurred. In the elementary grades, there has been some growth in math and/or literacy in grades two through four, but there has been neither an increase nor a decrease in fifth grade. In second through fifth grade, however, there has not been such a high level of implementation, and they do not have a 1:1 model in place. In the area of language, this district has seen no growth or a decline in the performance of the students depending on the grade level. This is, however, an academic area in which there is no blended learning occurring. It is an interesting observation to see that the subjects in which the district is using blended learning models are showing increases in the students' performance and in the area where they are not using blended learning there is no growth or even a decline in performance.

A third district that is featured in the Clayton Christensen Institute for Disruptive Innovation (2015) is the Spring City Elementary Hybrid Learning School in Royerford, Pennsylvania. This school district was among the first in the United States to start up a

whole-school program that incorporated blended learning in an elementary-aged setting. This school uses a Station Rotation model. During the individual Station Rotation, students use an online curriculum. The data from this curriculum then guide the teachers to make appropriate groupings for direct-instruction groups and for collaborative stations. This model has shown great success in this district. On the state assessments, the percent of students who performed at the proficient or advanced level increased by at least 19% in reading, math, and science. Also, students who were on individualized education programs (IEP's) had an average increase of 29% in their scores.

Another benefit from blended learning is help with limited classroom space, blending online learning with social face-to-face interactions, and with engaging students (Dziuban et al., 2011). With less money available to pour into classrooms and a growing student population, blended learning is beginning to show promise as an alternative to the traditional educational models (Kumi-Yeboah & Smith, 2014). The implementation of blended learning models is giving students more freedom in their learning by providing them with the opportunity to study in many different locations at whatever time is convenient for them (Bergmann & Sams, 2012; Kumi-Yeboah & Smith, 2014; Ortega Gil & Arcos García, 2011). This can be very helpful for students who are involved in athletics and have to miss out on large quantities of school due to games that pull them out of class. This flexibility can also help support rural and small school districts where students are physically spread out over a large distance, students in a home school situation in which their parents are unable to teach a particular subject, students with disabilities, students who are hospitalized, and students who have been expelled (Kumi-Yeboah & Smith, 2014). It also helps to develop greater independence in students'

learning with some models allowing students to even have control over when they are assessed over the content (Hogan, 2011; Ortega Gil & Arcos García, 2011). This model leads to more motivation in the students while enabling them to access the content and to engage in authentic activities (Kumi-Yeboah & Smith, 2014). When structured correctly, blended learning can promote relationships amongst the students and between the teachers and the students (Ortega Gil & Arcos García, 2011). This sort of learning also provides students with multiple learning opportunities and creates a more efficient and dynamic learning experience for the student while reinforcing and recognizing the efforts being made by student (Ortega Gil & Arcos García, 2011). When computers become an important part of the instruction and are used to solve real purposeful problems, children will develop the ability to use computers as natural tools for learning (Scott, 2003).

Mobile Learning in Education

An extension of the blended learning world is the m-learning or mobile learning world. This is very much like blended learning only the student uses mobile learning devices to access the course content (Hogan, 2011; Ortega Gil & Arcos García, 2011). The mobility of this structure allows easier access to information such as rubrics, message-delivery systems, and online learning tools (Ortega Gil & Arcos García, 2011), enabling students to stay on top of their learning no matter where their schedules take them. Students have found a sense of freedom in which the "public and private spheres of their lives merge and allow for learning to be done in unexpected ways" (Ortega Gil & Arcos García, 2011, p. 69). There are very few people living today who do not interact with the technological world; in fact, there are a large number of people who live their daily lives with technology intertwined throughout (LeNoue & Stammen, 2011). With

this in mind, it is important that the education we are providing the next generation embraces these advances instead of trying to hold on to past educational practices (LeNoue & Stammen, 2011).

Considerations with Blended Learning

When thinking of these newer models, it is still important to include a wide variety of instructional methods, allow students to learn informally, and to provide students with the opportunity to build their understanding from the smaller pieces of a concept to the larger concepts (Kumi-Yeboah & Smith, 2014). Also, students need to be given technological support in an easy to use environment (Kumi-Yeboah & Smith, 2014). When implementing blended learning models, teachers need to be responsible for learning how to deliver instruction using online tools. They must understand how to effectively use technological tools, how to manage instructional resources, and how to guide students in the safe use of technology (Kumi-Yeboah & Smith, 2014). Additionally, the teachers must strive to interact with parents and students in professional ways (Kumi-Yeboah & Smith, 2014). It is also suggested that teachers communicate and work with their administrators and school district's Information Technology (IT) departments to assure they have the needed support to be successful in their blended learning endeavors (Bagby, 2014; Bergmann, 2012).

When considering blended learning, it is extremely important to consider the audience that will receive the instruction, the content that will be shared with that audience, and the infrastructures that are in place to help deliver the content (Kumi-Yeboah & Smith, 2014; Singh & Reed, 2001). In addition to these components, the specifics of the content and how the blended learning is structured needs to be

considered. The learning can be presented through live events that the students attend, through self-paced learning, or through collaboration with peers (Kumi-Yeboah & Smith, 2014). Careful consideration needs to be made towards the sort of assessments that will be given and the support materials that will be made available to students to make sure they will be successful (Kumi-Yeboah & Smith, 2014), and teachers should be reflective as they implement this learning model (Bagby, 2014; Bergmann, 2012).

Teachers need to realize that it will take students and parents time to get accustomed to this new style of learning (Bagby, 2014). Some students may need reassurance to address fears related to blended learning. They may be concerned that they won't be able to ask questions, that they will not have enough time for extracurricular activities, that the videos will be of low quality, that class work time will be too noisy and it will be hard to concentrate, that they may not understand their notes, or that the internet will not be reliable (Bagby, 2014). It is the instructor's job to help alleviate these concerns through clear communication with both the students and the parents.

When implementing blended learning models within the classroom, teachers can choose to have their classrooms rise to the mastery level of performance. With blended learning models, teachers find it easier to differentiate the instruction to allow students the extra time and support they need to thoroughly learn the curriculum. This can be attributed greatly to the manner in which the technology component of blended learning allows for more immediate student feedback, individualized pacing and choice on the student's part, as well as repetition of the content whenever it is needed by the student. Blended learning also allows teachers to plan opportunities for students to revisit the

concepts they originally missed before an assessment which will allow them to be more successful overall. This is a component that is often missing from the traditional classroom.

Teachers are able to increase the rigor and depth of what students are learning by providing students with the opportunity to delve into higher levels of questioning and inquiry based activities. This is a positive consequence due to removing the need for teachers to lecture during class (Sowash, 2012). A common stance is that the teacher is now a facilitator, no longer the "sage on the stage," but rather "a guide on the side" (Bergmann & Sams, 2012; Johnson, 2012). Harasim (2012), on the other hand, when discussing online learning argues that the teacher is not the sage on the stage or a guide on the side, but rather someone who is expected to engage the students and bring them into the language and processes of the knowledge community in which they are teaching. Teachers are representing their field of study and are the ones who introduce their students to that world. Horn and Staker (2015), looking at it from a purely blended model aspect, agree that the educator is no longer a sage on the stage, and takes a stance that is similar to Harasim in that an educator's job is to work as a tutor, facilitator, project leader, or even a counselor. These arguments help alleviate a concern that some individuals have about the teacher being replaced by the technology now entering the classroom. Educators will still be needed (Irelend et al., 2008), but their roles within the classroom are changing (Horn & Staker, 2015).

Other considerations for blended learning can be seen in the study *Applying the Seven Principles for Good Practice in Undergraduate Education to Blended Learning Environments* by Babb, Stewart, and Johnson (2014). In this study, the researchers

presented seven principles that help online instructors create learning environments where students perceive their courses as positive learning experiences. These principles are: encourage faculty-student interaction, encourage cooperation among students, encourage active learning, give prompt feedback, emphasize time on task, communicate high expectations, and respect diverse talents and ways of learning. These seven principles, while written for online instructors at the university level, are good practices that could be considered at all levels of education.

Station Rotation Model

Just as no two traditional classrooms look the same, no two blended learning classrooms look the same, either. There are four commonly used models of blended learning: Station Rotation model, Lab Rotation model, Flipped Classroom model, and Individual Rotation model. (Staker & Horn, 2012; Walne, 2012) These models have been utilized at both primary and secondary levels of education. During this study, the primary focus will be on the Station Rotation model.

The Station Rotation model is one that is implemented entirely within the classroom setting. Within this model, the teacher sets up various stations within her classroom for students to rotate through. At a time specified by the teacher, the students rotate to the next station and begin working on the task designated at that station (Staker & Horn, 2012; Walne, 2012).

This model can be adjusted to meet the needs of individual classrooms. The classroom can be broken up into two, three, or even four different stations based on the students' and teacher's needs or based on the access to technological devices (Education Elements, 2013; Reiser & Butzin, 1998; Staker & Horn, 2012; Walne, 2012). This is

similar to the old classroom model of stations that took place in the traditional classrooms of the past that were used to differentiate instruction for groups of students (Tomlinson, 1999). The greatest difference is that now at least one of the stations is computer based. One way a three Station Rotation can be set up is to have one station be teacher directed, a second station to include online instruction, and a third station to provide an opportunity for collaborative learning with a small group of peers (Staker & Horn, 2012). It is important to note that in order for the Station Rotation to be considered blended learning, the students must be using the technology to learn some content; it should not just be a time to play games on the computer.

A great advantage of the Station Rotation model is that the teacher is allowed more flexibility in working with her students. The option of providing various types of learning opportunities for students multiplies the students' learning opportunities (Ortega Gil & Arcos García, 2011). For example, the educator can opt for small group or large group instruction, and the option to break the class into smaller groups allows for the possibility of having more time to work with smaller groups of students (Walne, 2012). By providing the various learning opportunities for students, they are allowed the opportunity to fully experience the concepts. Through this, students are better able to retain what is being taught and are also able to recall the information when needed (Bersin, 2004). The teacher has the opportunity to provide independent work or collaborative assignments (Staker & Horn, 2012). In one pilot study using this model, the academic gains of the students involved were very encouraging. The overall number of students who performed at a proficient level after participating in this study increased

their level by a minimum of 10% with some nearing 40% (Walne, 2012). This shows great promise for the successful use of this model in other classrooms, too.

In addition to the higher proficiency level, students were also reported to have a higher engagement rate in class (Reiser & Butzin, 1998). Instead of the teacher just standing in front of the classroom lecturing at the students, the students are actively engaged in learning through various hands-on activities with the teacher taking on more of a coaching role (Reiser & Butzin, 1998). Through this method, students are able to learn by doing; they are able to use the information they have to investigate problems that will tie into their real lives (Hogan, 2011).

Challenges with Blended Learning

While much of the data around blended learning are positive, there have been studies that have seen the downfalls or limitations to blended learning, as well as the challenges that come with trying to implement these learning models. In Bagby's article (2014) on the Flipped Classroom approach to blended learning, she mentions a dissertation by Johnson and Renner (2012) on the Flipped Classroom. In this study, they found that their efforts at blending the classroom were actually a failed attempt. This was primarily due to so few students within the study actually implementing the blended learning components. By not participating in the blended model, the students were not receiving the needed instruction, so the instructors were forced into teaching a traditional course in the end.

Even with the best practices in place, it is cautioned that the Flipped Classroom is not a cure-all or foolproof method for all students. There are always students who do not want to learn or do what they need to be successful (Bagby, 2014; Butrymowicz, 2012;

Fulton, 2012). This lesson can be generalized to other models of blended learning, as evidenced in a study by Padayachee and Harding (2011). In their study about students in South Africa, the researchers were investigating the best way to address a shortage of students who would enter the fields of science, mathematics, and technology when they moved onto higher education. The researchers chose to implement a blended learning model that would aid in enhancing the learning of those students through the use of technology. As the study came to an end, the researchers were pleased to see that there were some improvements in the academic gains of some of the students. It was also noted, however, that some students in fact did not make the desired academic gains. The researchers made a note to say that although not all of the learners progressed as desired from the blended learning models, it was not surprising. Within a blended learning model, the students are expected to take more ownership and responsibility for their own learning than they are expected to do in a traditional classroom (Bergmann & Sams, 2012; Khan, 2012), and some students are simply not ready or willing to do this. This can also be common in younger children as they do not have the skill sets and self-discipline to work independently from the teacher (Kumi-Yeboah & Smith, 2014; Russo, 2001).

Since becoming more independent learners is such a large part of the blended learning model, it is not surprising that students will not be successful if they are not ready for this responsibility. With knowing that this study will be conducted in the third grade classroom, this point reiterates the importance of scaffolding students through support in accessing the information, engaging in authentic activities, and even extending activities as needed, so they can learn how to be more responsible for their learning and

can, therefore, be successful learners in the blended classroom (Kumi-Yeboah & Smith, 2014). Simply put, younger learners should not be excluded from the e-learning world simply because of their age and skill level, but instead, need adaptations, so they can be successful (Kumi-Yeboah & Smith, 2014; Scott, 2003).

Another challenge that can come with blended learning is the logistics of trying to implement the design. These challenges can be seen in the lack of financial resources needed to deliver the courses to the students (Kumi-Yeboah & Smith, 2014; Watson, Pape, Murin, Gemin, & Vashaw, 2014). It can also be seen in the lack of staff qualified to train teachers in this field (Kumi-Yeboah & Smith, 2014). Challenges with administration, policy issues, and the availability of needed technology both in the schools and with the students at home can also add to the challenge of implementing blended learning models within today's classrooms (Kumi-Yeboah & Smith, 2014; Watson et al., 2014). Once all of these challenges are considered, worked through, and pulled together, it is possible to make the best learning experience for each individual student, and it can allow teachers the ability to differentiate the learning for their students.

Differentiated Learning

A typical classroom filled with a largely diverse population of students working towards the goal of mastering 21st Century Skills and meeting the high rigor of the Common Core Standards creates an increased challenge for the teacher who must figure out how to provide instruction that will meet the needs of every student. Since teachers may be faced with the challenge of having classrooms filled with students with abilities that range from well below grade level to abilities that are one or two years above their current grade level, students who have been identified with special needs, students who

are still learning English as a second language, and/or students who are from poverty, they are also faced with the challenge of trying to adjust instruction to meet such a wide variety of needs.

Through blended learning, teachers are able to identify challenges students are having within the classroom and are able to address them in ways that were not possible in the traditional classroom (Bergmann & Sams, 2012; Kumi-Yeboah & Smith, 2014; Ortega Gil & Arcos García, 2011). Differentiated instruction is a model teachers use within the classroom to meet the large variety of needs represented by the diverse population of students in their classrooms, whether they are accelerated students or students with special needs (Bagby, 2014). As a teacher once said, "Children already come to us differentiated. It just makes sense that we would differentiate our instruction in response to them" (Tomlinson, 1999, p. 24). Through differentiated instruction, teachers are able to give value to students for their unique learning styles (Bagby, 2014) by dividing the students into small groups based on their needs and relinquishing the need to only present instruction to the whole class. This is an example of where the Station Rotation model of blended learning becomes a perfect fit for differentiation (Horn & Staker, 2015; Walne, 2012).

When differentiating instruction, teachers look at the key concepts that need to be addressed, then they adjust the tasks they will have the students complete to meet the needs of the individual students. Some students will be ready to attempt a task that stretches their learning beyond that of the grade level content while other students will need scaffolding to grasp the basic concept being taught (Tomlinson, 1999). By utilizing blended learning as a means of differentiating the classroom, doors can be opened for all

students no matter what their learning needs may be (Kumi-Yeboah & Smith, 2014). It also enables students to begin taking more responsible for their own learning (Bagby, 2014). Teachers will not differentiate every lesson that they teach, but rather they will look for the opportunities in which it will make the biggest impact to differentiate (Tomlinson, 1999).

When differentiating for different students, it is important to know the students. Finding out what learning styles the learners represent (auditory, visual, tactile, kinesthetic, or tactile/kinesthetic) or what thinking styles they represent (concrete random, concrete sequential, abstract sequential, or abstract random) can help teachers develop tasks that are more appropriate for various learners (Gregory & Chapman, 2002). Additionally, Howard Gardner has identified eight multiple intelligences (verbal/linguistic, logical/mathematical, visual/spatial, musical/rhythmic, bodily/kinesthetic, interpersonal, intrapersonal, and naturalist) that students demonstrate. Knowing which of these eight intelligences students demonstrate can be helpful in designing beneficial tasks to meet the learning styles of the students (Gardner, 1993; Gregory & Chapman, 2002).

It is suggested that when beginning to differentiate lessons within the classroom, it is wise to start slowly and to add more lessons a bit at a time (Tomlinson, 1999). This recommendation is also suggested when beginning to blend a classroom with a model such as the Flipped Classroom blended learning model (Bergmann & Sams, 2012; Sowash, 2012). Attempting to differentiate too many lessons too soon will just seem overwhelming and will not result in the positive outcome that the differentiated classroom has the potential to produce. It does not have to be all or none (Bagby, 2014;

Johnson & Renner, 2012). When implementing a Station Rotation model in the classroom, the instructor needs to decide if every lesson would benefit from being placed in a Station Rotation model format, or if only selected lessons would be best presented in that manner. This is a decision that needs be made once the teacher gets to know the students in the class and the individual needs that each student brings.

Summary

Within this section, the changes in education, students, and technology were addressed. Discussion was provided around the new rigors that are expected of today's students and teachers as a result of the Common Core Standards, 21st Century Skills, and the State Model Evaluation System for Teachers. The blended learning models were presented as was a discussion on differentiating instruction in the classroom. All in all, a wide variety of factors were presented showing how greatly education and technology has changed in the recent past.

When thinking about blended learning, it is obvious that many factors must be considered by educators when beginning to implement a blended learning environment within their classrooms. The novice educator utilizing blended learning will need much support in this area. Also, if the educators are digital immigrants, they may have an even greater learning curve when trying to implement this model. They may not know how to solve issues that arise or how to even begin processing through the implementation of this model.

The current study was designed to help address these concerns. Through this study, educators were presented with a real-world glimpse into what it takes to implement a Station Rotation blended learning model in a classroom. Educators were given an

opportunity to see how issues were addressed within one classroom during a blended learning implementation. They also gained an understanding of how students perceived the blended learning experience during the implementation.

CHAPTER III

METHODOLOGY

Methodological Perspective

This study was a heuristic, bounded, case study. The focus of a heuristic case study is to verify what the reader already knows, to extend the reader's knowledge, and to allow for new meaning to be discovered (Merriam, 2009). In the case of this study, previous understandings of a blended classroom were verified and the current knowledge surrounding the implementation of blended learning models within the classroom was expanded through the lived experiences of a third-grade teacher and her students. This design enabled the researcher to achieve a full understanding of this phenomenon as was anticipated from a study of this nature (Merriam, 2009). This study was bounded by the limitation of only one teacher in one classroom within one elementary school participating in the study. Additionally, it was bounded within the time constraints of one semester of an academic school year.

Researcher Background and Role

The researcher in this study played the role of both the researcher and the third grade teacher. This decision was made due to the following factors. One factor was that the researcher has a strong background in working with the student population that is within the school of study. She has spent her entire career working in Title I schools with many second language learners, so she knows the population well and understands how to support her students. Additionally, she has a passion for bringing technology into the

classroom and making it accessible for both teachers and students, and she is also well versed in the blended learning models. This enabled her to comfortably implement the blended learning model within the classroom without having to struggle through the learning curve and fear of technology that other teachers may have exhibited if they were not comfortable with technology and blended learning.

An additional factor that influenced the decision to allow the researcher to be a participant in the study was that at the time of the study, there were no other classrooms in her building that were fully implementing blended learning. Within the teacher's district at the time of this study, there was a blended learning initiative that was working to bring blended learning into every school (Independence Institute, 2014). The district was hoping to show the effectiveness of blended learning through a system-wide implementation. It would then be a model for other similarly sized districts that were wishing to do the same. Each year of the initiative, the district selected a few elementary schools, a middle school, and a high school to "go blended." The school district then went in and provided training to the teachers, helped the buildings obtain the needed technology to successfully implement blended learning, and aided in the selection of instructional programs to be used during the blended learning implementation. The district was partnering with The Learning Accelerator to provide this support to the buildings beginning to implement blended learning (Independence Institute, 2014; Learning Accelerator, 2014). For the building in this study, the full implementation of blended learning would not happen for another year. While there were a few teachers who were just beginning to explore the idea of bringing blended learning into their own classes, there were no other teachers that were fully implementing blended learning at

that time who could be selected to participate in the study. Therefore, the decision was made to implement this study in the researcher's classroom. The teacher was responsible for teaching and guiding the students through the blended learning model. She was also the one who recorded daily information around the way blended learning was occurring in her classroom during the specified time periods.

Qualitative research experts have cautioned that when the researcher is also the teacher being observed, concerns in the study can arise if not carefully addressed (Creswell, 2007; Glense & Peshkin, 1992; Merriam, 2009). To aid in grasping the complexity of what needs to occur in a study such as this, Patton (2002) stated: "Observers must make some effort to observe themselves observing—and record the efforts of their observation on the people observed" (p. 328). Walcott (2005) adds to this by pointing out that we need to "realize the potential not simply of being there, but of being so agonizingly self-conscious about it" (p. 89). The challenge of trying to balance the idea of seeing the study through both the researcher's and participant's eyes, keeping those views separate, and then pulling valid data together from them can be mind-boggling.

Other concerns could come out of this situation, as well. One such concern is that the researcher could influence the behavior of those being researched (Merriam, 2009). In the classroom, it was expected that the teacher would influence the behavior of the students. It is also expected that teachers would modify their teaching based on the behaviors of their students and on the feedback of others observing their classrooms. Within this study, it was anticipated that the teacher would use the information gathered throughout the semester to modify the instruction within the classroom to fully aid the

students in learning to the best of their abilities. Knowing that this could occur, the researcher chose to review only the data she herself was collecting during the semester of the study. The data collected from the administrators' and instructional coaches' observations, the questionnaires, and the interviews completed by other individuals were not reviewed until after the final data collection period. This minimized the amount of the data she, as a teacher, saw and aided in reducing the effect the data could have on her teaching. As for the interviews and questionnaires that she herself participated in, the researcher made a conscientious effort to share how this data affected her teaching and how the changes were made based on the data gained through the various data collection periods. The sharing of this process will model for future educators how to take the data they receive in the classroom around blended learning and modify their instruction to meet the needs of the students in their classrooms.

Participants

School Background

This study examined the lived experience of implementing a blended learning model in a third grade classroom located in a Title I elementary school in a city in a Midwestern state. The participants in this study were 31 third grade students who were being educated in my classroom. The classroom was diversely populated with students from a variety of backgrounds, including several students for whom English was not their first language.

The students participating in this study come from a Title I school with around a 95% free and reduced lunch poverty level. There were many different languages within

the school and within the classroom. Some of the home languages in the classroom included English, Spanish, Karen, Karenni, Somali, and Burmese.

With the large number of students, multiple languages, various ability levels, and high poverty level, these participants represent students in a large variety of educational settings. The school district is a middle sized district that is in the bottom 10 percent of its state for per pupil funding according to the current data from the district's website.

Teacher

With 15 years in the classroom, my experience would classify me a veteran teacher. I am very comfortable with technology and have used blended learning in my classroom in the past. Through years in the classroom and a degree that focused on educating bilingual/bicultural students, I have acquired a wealth of experience around working with bilingual/bicultural students from low socioeconomic backgrounds. Therefore, my position within this classroom is very appropriate.

Students

The students in this study were a part of my third grade homeroom classroom of approximately 29 students, with an additional mix of other third graders from the other two third grade classrooms. The mix of other third grade students was a result of grouping students for ability-based reading interventions during two different periods each day. During each reading intervention class period, students were grouped according to their reading academic needs, and teachers worked with these groupings to provide specific instruction geared towards the needs of the students in their group. Consequently, different students participated in blended learning model within my classroom at different times during the day and for different content areas.

Classroom Materials and Setup

Devices

The classroom in which this study occurred had a Promethean board (an interactive whiteboard), two student desktop computers, and eight student laptops. I also had a laptop that was used to instruct the class and to complete the necessary communications and paperwork that come with an elementary classroom. In addition to this technology, each classroom teacher in my building had a mini-iPad that was used primarily for assessment purposes. While I had access to a laptop and iPad, the students only utilized the eight student laptops and the two student desktop computers during their blended learning lessons. The student laptops were gained through a Success Foundation grant that I wrote for the sole purpose of bringing more technology into my classroom (Success Foundation, 2015). These were the primary devices that were in the classroom, but from time-to-time as more devices became available on the school's mobile cart, more devices were brought into the classroom to lower the student to computer ratio.

Arrangement

The classroom was set up to allow for ease of movement during blended learning stations. Tables were set up in the back of the room for students to work at while they were utilizing the laptop computers. These tables were in a location that allowed for the laptops to remain setup throughout the day without having to move furniture or continually move the devices from one location to the next. There was also a laptop charging station that was setup, so the students were responsible for plugging in and charging the laptops each day. Student desks were arranged in small groups of four to six desks each to encourage rich discussions and group collaboration on more in-depth

projects and interactive activities. These desks arrangements were rearranged as needed throughout the year to aid in classroom management and in student performance.

Technology

Usage

Within a blended learning setting, technological devices need to be available for the students to use (Horn & Staker, 2015). Within this study, students were able to use one of 10 desktop computers or laptops within my classroom. There was also the opportunity to visit a computer lab from time to time. When utilizing the computers in the classroom, the computer to student ratio was 1:3; when in the computer lab, the student to computer ratio was 1:1. If the school's mobile labs became available, more laptops were brought into the classroom to provide a 1:2 computer to student ratio. All of those various possibilities allowed for flexibility on my part to meet the learning needs of the students as we were experiencing blended learning. These devices were used to access the school district's learning management system (LMS): Schoology (2015). Additionally, students were able to access digital content on systems such as the *Wonders* website (McGraw Hill Education, 2015) which provided literacy content and on the *Zearn* website (Zearn, 2015) which provided the math content. Throughout the study, students also used various Microsoft Office programs and testing websites.

Safety

A great concern in this study was to keep students safe in all of the work they did on the computers. Many of the students in school have lives that were focused on simply surviving everyday life. Some of them also lived in unsafe environments. For some students, the classroom was the only safe haven they knew, so I took the task of keeping

students safe very seriously. As a piece of keeping my students safe, I was very aware of how I taught the students to use the computers and the internet. In a recent study I completed on bridging the digital divide in low socioeconomic students (Truitt, 2011), I found that a major concern for parents was keeping their children safe when using the computer and the internet. There was a great potential for students to see inappropriate material when they were on the internet. There was also a concern about keeping their personal information safe. This concern was echoed in Aerschot and Rodousakis' (2008) study in which they reported that their participants were also concerned that "the Internet represents problems for privacy and confidentiality" (p. 326).

In order to address this concern, I have committed to providing my students with information about how to keep themselves safe when using the internet and when working online. Every year before I ask my students to participate in a blended learning model in my classroom, I teach them a curriculum called NetSmartz Workshop (National Center for Missing & Exploited Children, 2010). This workshop is a free resource that is available to teachers for use in their classroom when teaching their students about internet safety. It is a highly engaging workshop that introduces students to the dangers on the internet and how to keep themselves safe through hands-on activities, videos, and fun, child-friendly characters. At the end of the workshop, each child is asked to sign a pledge card stating that they will be safe when using the internet (See Appendix A). I took time at the very beginning of the study to share this curriculum with the students in my homeroom class. Realizing that I would have students from additional classrooms in my room, I also encouraged the other third grade teachers to teach this curriculum in their own classrooms. In addition to this workshop, the students also participated in a district

adopted curriculum during their library/computer specials time which focused on internet safety and netiquette.

Data Sources

The data sources within this study were an intricate mix of interviews, questionnaires, journal entries, and observations. All of these forms of collecting data worked together to answer the research questions in a full and complete manner. According to Creswell (2007), a researcher generally groups the data sources into four groups: observations, interviews, documents, and audiovisual materials. Within this study the data sources fell into all of these groups. The following were the nine sources of data that were implemented and collected throughout the study.

Teacher/Researcher Journal

The first of the methods was a daily journal which I completed as the teacher and as the researcher. This journal was a form of document (Creswell, 2007) that helped record the thoughts and considerations that I made during the implementation of blended learning in my classroom. I recorded the decisions I made about changes in my implementation of blended learning, problem solving processes I worked through, and overall reflections on how I believe blended learning was working. I also included reflections from the viewpoint of a researcher looking through the lens of the research questions. After the data collection process was completed, the data were coded and analyzed to reveal themes that answered the research question.

Teacher/Researcher Interim Journal

Also, considered as a document (Creswell, 2007), a second method of collecting data was in the form of a teacher interim journal. In between the first data collection

cycle and the second data collection cycle, instruction was still occurring within the classroom around blended learning. During this time period, I made weekly journal entries to record my thought processes about what was being taught around blended learning. I also included any significant occurrences that greatly impacted the blended learning within the classroom.

Teacher Questionnaire

The third method of collecting data was in the form of a teacher questionnaire (See Appendix B). The questions for this questionnaire were adapted from Andrew, Maslin-Prothero, and Ewens' (2015) study that spoke to the enhancement of the online experience through the design, implementation, and evaluation of an online project. It was also influenced by The Blended Learning Toolkit (2015) which is a website that the University of Central Florida and the American Association of State Colleges and Universities have put together to aid educators in providing effective online learning experiences.

Prior to the start of the study, I looked at the teacher questionnaire and considered the questions being asked. As I began the school year, I recorded activities, happenings, and considerations that I experienced within my classroom in a journal so as to be able to provide full, complete responses when completing the teacher questionnaire. At the beginning of the school year, I introduced blended learning into my classroom just as I would any other year. I set up the classroom for a year of learning by physically setting up the classroom, teaching routines, setting the standards for the classroom management, and so forth. All of these initial teachings influenced how the students reacted to blended learning and how they performed during the two weeks of data collection. With this in

mind, I used what I experienced and what I wrote in my journal to fill out the questionnaire making sure I explained the processes I went through to start my classroom on the path to blended learning.

As a part of the questionnaire, I shared the basics about classroom implementation, the way I set up my classroom management, the introduction of the technology and blended learning, challenges that I had to overcome during those first few weeks of the semester, students' reactions to blended learning, and any other pieces of information that would lead to where the students were at the start of the data collection period. By understanding where the students and I were coming from, it was easier to understand why the students responded in the ways they did and helped to address the research questions.

Researcher Classroom Observations

The fourth method of collecting data was an observation of the classroom by the researcher. Since I was the researcher and the teacher, it was difficult to really "see" what was happening throughout the entire blended classroom while still teaching the class. To aid in this, I invited a district videographer to come into my classroom once during each of the data collection phases and to record a class session in which we were experiencing the Station Rotation blended learning model. After the class, he dropped the raw video data onto a flash drive for me and then deleted his copy of the recording. At the end of the final data collection period, I observed the videos and made notes about the procedures being taught, the responses of the students, challenges that presented themselves during the class, my interactions with the students, the blended learning environment, and any other components that arose that were important to the study.

Specific examples from within the classroom were also included to aid in painting a picture of the true blended learning classroom. These observations were written into fieldnotes to be used at the end of the study (Creswell, 2007). In this way, I was able to fully observe the classroom happenings without having to take my attention away from teaching the students.

Student Focus Group Interviews

The fifth method of collecting data was student focus group interviews. Focus group interviews are interviews that are conducted with small groups of individuals rather than one interviewer with one interviewee. Like focus groups, focus group interviews encourage discussion amongst the participants. These groups resemble interviews in that during the focus group interview there is a set of interview questions that the moderator asks the participants. With this set of interview questions, each group of students will be prompted to have a similar conversation, therefore allowing the data to be more easily compared.

The choice to interview students as a focus group rather than as an individual was purposeful. The purpose behind a focus group interview is to interview the individuals who have the knowledge about a topic. This topic would not be a highly sensitive topic, but rather one that they would be comfortable talking about if they were given an opportunity (Merriam, 2009; Remler & Van Ryzin, 2011). The interviewees within the group would help prompt more discussion around the topic than would be possible with one-on-one interviews (Remler & Van Ryzin, 2011). Since the students within my class were the ones who had been experiencing the blended learning phenomenon it made sense that they would be the ones interviewed in this study. Blended learning was

generally a topic that the students enjoyed talking about. They were eager to share their expertise when an individual asked them about it.

Additionally, the focus group interview allowed the students to feel more comfortable while they were being interviewed because they were with a group of their peers rather than just participating in a one-on-one interview with an adult (Creswell, 2007). This method aided in producing better results and discussion. Care was taken by the moderators to encourage quieter students to share their thoughts and to help more verbal individuals allow everyone to discuss the questions (Creswell, 2007). The interviews were conducted during the students' recesses, lunches, or during a block of free time, so they would not miss out on any academic instruction.

Twenty-nine students were interviewed as a part of a focus group interview two different times; once during the first session and once during the second session. Two students only participated in one session because they either moved away from the school or moved into the school part way through the semester. One student participated in the first focus group interview session, and the other student participated in the second focus group interview session. The students that participated in each of the focus group interviews were randomly selected from the students within my classroom by pulling the names of the students from a jar. This provided a random grouping of the students for each focus group interview session that represented the classroom by randomly including a variety of languages, genders, and ability levels within each interview group. The names were redrawn during the second session creating a different mix of students in each of the focus groups.

Six focus groups interviews were conducted during each data collection week and each grouping of students consisted of two to six students. Six of the groups had six students in them. Two of the groups had five students. Three of the groups had four students, and one group had two students. The group that had only two students was a result of the students being absent early in the week, so they had to do the interview later in the week when there were only two students left to interview. Six participants up to twelve participants is the recommended size for a focus group interview (Merriam, 2009; Remler & Van Ryzin, 2011), and in considering the age of the students, the smaller end of the recommendation was implemented. The exact number of focus groups was determined by the number of participating students in my classroom at the time of the study, as all students participating in blended learning were asked to participate in the interviews.

Generally, a study utilizing a focus group will include two or three different focus groups, but for this study, there were six different focus groups during each of the two sessions, for a total of 12 focus groups. This enabled all the students who participated in blended learning on a regular basis during the study to share their ideas (Remler & Van Ryzin, 2011). Also, by including more than just one focus group, the odds of confirming and replicating the findings were greatly multiplied (Remler & Van Ryzin, 2011).

Focus group interviews were conducted by me as the researcher, the principal, the assistant principal, the literacy instructional coach, and the math instructional coach in either my classroom or in another room within the school. These moderators were all individuals that the students were familiar with from their daily school experiences. I learned from past experiences with having these individuals and other guests in my

classroom that the students were always eager to share their knowledge with those who were visiting. I did not see any differences in demeanor with this group of third graders during the focus group interviews. Therefore, the focus group interviews with these individuals, while of a more formal nature, were approached with eagerness and excitement on the students' part. The administrators and instructional coaches were only asked to complete one interview each over the two data collection periods so as not to impose too greatly on their extremely busy schedules. I completed the remaining interviews during each of the two data collecting periods.

It was recommended that the questions be pilot tested prior to the full implementation of the interviews (Creswell, 2007). However, due to the time constraints and the limited number of participants, the questions were not able to be fully tested prior to the focus group interviews. I did, however, informally asked students how blended learning was going for them from time to time and inquired specifically about how they liked the math digital curriculum and the other activities they participated in using the blended learning structure. By discussing this with the students, it provided them with an opportunity to become comfortable sharing their thoughts around blended learning with an adult, and it allowed me to test out a couple of the questions before I began the formal interviewing during the focus group interviews. After the students were interviewed by the variety of individuals, their responses were coded and analyzed for similar themes and ideas. By having a variety of individuals collecting data that were then analyzed for similar themes, a higher level of trustworthiness was obtained (Merriam, 2009).

A set of five questions were provided to the moderators who were leading the focus group interviews in order to guide the discussions and assure each group of

participants had a similar conversation (See Appendix C). The decision to include only five questions in the interview was based on the recommendation by Creswell who suggested that the interviewer only asks five or six questions (2007). The questions for this interview were also adapted from Andrew et al.'s (2015) study and influenced by The Blended Learning Toolkit (2015). Along with the five questions was a script that guided the interview process and aided the moderators in conducting the interviews. This was much like the moderator's guide that was suggested by Remler and Van Ryzin (2011) that served as an interview guide.

Before conducting the interview, I sat down with each of the moderators and explained the entire interviewing process. The information I shared with them included how to utilize the interview script and questions, how to manage the group of students during the interview, the method of recording the interview, how to take brief notes during the interview, the specifics of how long the interview would take, and in general how to create a similar experience for each participant.

Each interview session varied in length. One interview took only four minutes while another interview took about 16 minutes. The duration of the interview primarily depended on the number of students in the group. The more students that were in the focus group interview session, the longer the session lasted because there were more students to contribute to the conversation. Each of the focus group interview sessions were recorded using a desktop microphone and the Audacity software to allow for future transcription. As mentioned above, the focus group interview sessions were conducted with a small group of students in a relaxed setting with a group of their peers and one adult. This setup was a purposeful design to allow the students to feel more comfortable

while speaking with the adult (Creswell, 2007). During each focus group interview session, the moderator began by explaining to the students how the focus group interview would work. She explained the purpose behind the focus group interview, what the information would be used for, and that the focus group interview would be about blended learning (Remler & Van Ryzin, 2011).

Administrative Observations

The sixth method of data collection was observations by an administrator. The principal observed me and my classroom during the first data collection period, and the assistant principal observed me and my classroom during the second data collection period. The decision was made to have one administrator complete one observation and the other administrator to complete the other for a couple of reasons. One reason is in consideration of the workload that was expected of the administrators in the study. Every day, administrators have a great number of obligations within their school buildings. By asking each administrator to complete only one observation, the extra workload placed on each administrator was minimized. A second reason behind asking each administrator to complete an observation was to gather different viewpoints. Each administrator came with her own background knowledge and experience base, so each viewpoint was different.

When the administrators visited the classroom, they were asked to observe for an entire class period so they could see the whole process of blended learning and to record what they saw in the classroom. The notes they made included the students' responses to blended learning, my actions as the teacher, challenges that they saw, and any other notable occurrences. In other words, they were there to help record what was happening

in the room. The administrators received a handout that briefly explained the study and provided prompts to help them understand the purpose of their observation (See Appendix D). The observational notes that were taken during the observation were the fieldnotes that were coded after the data collection phases were complete (Creswell, 2007). In addition to the actual observations, I, as the researcher, met with the administrators in a pre-observation conference to discuss with them what to look for when observing in the classroom. After the observation, the administrators gave me their notes, but I did not review them until the end of the study. At that time, I sat down with each administrator for a post-observation conference to discuss what the administrator saw and to make sure that I understood the notes that were written by the administrator.

Instructional Coaches Observations

The seventh means of collecting data was very similar to the sixth. The literacy and math coaches who work within my school building were asked to each observe the classroom during one of the data collection weeks. The literacy and math coaches were individuals who worked closely with teachers to improve the instruction within the classroom. These coaches were available to teachers whenever they needed support learning a new teaching strategy, needed resources to use in the classroom, or needed to discuss ideas to improve instruction within the classroom. The instructional coaches often worked with multiple buildings, so they had the opportunity to see a lot of different classrooms and teaching styles which allowed them to gain a wider perspective than just an educator who is only in one building or classroom. This wide perspective was a nice addition to the study because it allowed my classroom to be viewed through a lens that had a perspective larger than just one classroom or one building.

As with the administrative observations, the coaches participated in a preconference to first go over the goals of the observation. They, too, received a handout that briefly explained the study and provided prompts to help them understand the purpose of their observation (See Appendix E). The observational notes that were taken during the observation were also the fieldnotes that were coded after the data collection phases were complete (Creswell, 2007). After both the data collection phases were completed, I, as the researcher, completed a post-observation conference with each of the instructional coaches to discuss what was seen during the observation.

Student Questionnaires

Student questionnaires were the eighth and final means of collecting data in this study. The questionnaires were made up of eight open-ended questions (See Appendix F). The questions for this questionnaire were also adapted from Andrew et al.'s (2015) study and influenced by The Blended Learning Toolkit (2015). The questionnaires were utilized as a way for students to communicate how they were really feeling about blended learning while taking out the factors of peer pressure, timidity with speaking around adults, and the fear that what they wanted to share would influence how the teacher viewed them. This group-administered method of completing a questionnaire was also an efficient, time-saving method that allowed for larger quantities of data to be collected within a relatively short time period (Remler & Van Ryzin, 2011). The responses on the questionnaires were compared with the responses gathered during the interview process to triangulate the data that were collected. The questionnaires were used during both data collecting sessions and were given to all students who participated in the blended learning process. As in the student focus group interviews, 29 students participated in

both questionnaire sessions. Two students only participated in one questionnaire session because they either moved into or moved away from the school part way through the semester. One student participated in the first session, and the other student participated in the second session.

The variety of data collecting measures was a purposeful effort on my part to assure triangulation and validity in the data and results that came from this study (Creswell, 2007; Merriam, 2009; Remler & Van Ryzin, 2011). A complete list of data sources with explanations is listed in Figure 3. The variety of data sources being triangulated and validated aids in the possibility of the results of this study transferring to other studies and situations (Creswell, 2007).

Procedure

The study took place in a regular education third grade classroom within a high poverty school. Throughout a semester, blended learning models were introduced and implemented in targeted instruction and math. Prior to beginning the study, the study was presented to the university's Institutional Review Board (See Appendix G), to the school district, and to the building principal to receive approval to complete the study. All of these approvals were granted. Additionally, parental consent forms were sent home with each child that was participating in blended learning in my classroom to obtain permissions for the students to participate in the study (See Appendix H). For students in my homeroom classroom, this study was shared during parent/teacher conferences with the parents of my students. For students outside of my homeroom classroom, I sent the consent forms home with the students and extended an invitation for the parents to discuss the study with me if they had any questions or if they just wanted

know more about the study. In addition to the consent forms for parental permission to participate in the study, the students were also asked to complete an assent form right before they completed the student questionnaire that stated they were also willing to participate in the study (See Appendix I). A "Remove from Study" form was available for any parents who wanted to opt their child out of the study. Students who were opted out of the study still participated in the blended learning activities; their opinions and reactions to the Station Rotation blended learning model, however, were simply not recorded in the data.

This study was designed to encompass two phases of data collection within the semester. Each phase lasted for one week. One phase occurred around the middle of the semester, and the final phase occurred towards the end of the semester. The timing of these phases of data collection allowed me as the researcher to gather information on the blended classroom at two distinct points in the semester with the timing being about a month apart. Since there was only about a month in between the data collection sessions, it was decided that the data should be looked at together rather than separately. In one month's time, there was not enough difference in the students' performance in the classroom to prompt me to look at the two data sets separately. Therefore, the two data sets were blended together, coded, and analyzed for themes.

Data Collection Method	Explanation
Teacher/Researcher Journal	Daily entries during the two week-long data collection periods about occurrences within classroom, thought processes around blended learning (BL), etc. This data were coded later to view themes around BL.
Interim Teacher/Researcher Journal	Weekly entries about occurrences within classroom, thought processes around BL, etc. during the weeks between the two week-long data collection periods
Teacher Questionnaire	The teacher completed an eight item questionnaire at the start of the study to share what she had done up to that point of the semester to get the class to where they were in terms of BL, what challenges she had, what thought processes she went through, etc.
Researcher Classroom Observation (via video)	The blended learning classroom was recorded twice by a district videographer who strove to video as much of the classroom as possible during the teaching block. The researcher came in once during the first data collection period and once during the second data collection period. The researcher then observed the classroom by watching the videos and by recording what was happening throughout the classroom.
Student Focus Group Interviews	The principal, assistant principal, literacy coach, and math coach each conducted one interview during one of the data collection periods. The researcher conducted four interviews per period for a total of eight interviews. Each interview session was with two to six students.
Administrative Observation	The principal (October) and assistant principal (December) observed the teacher and students during one class period with the focus of the observation being on BL. A pre-observation meeting was held to discuss the focus of the observation before the observation occurred. After the observation, a post-observation meeting was held to discuss the observational notes.
Instructional Coach Observation	The literacy coach (October) and math coach (December) observed the teacher and students during one class period with the focus being on BL. A pre-observation meeting was held to discuss the focus of the observation before the observation occurred. After the observation, a post-observation meeting was held to discuss the observational notes.
Student Questionnaires	Students completed a short eight question open-ended questionnaire around BL once during the first data collection period and once during the second data collection period.

Figure 3. Data Source Explanation

Pre-Data Collection

Prior to beginning the data collection, I set up my classroom to be conducive to blended learning. This included setting up digital accounts for the students who participated in blended learning in my class. I also familiarized myself with the online programs my students were using. In addition to this preparatory work, I also introduced blended learning to my students. I taught them how to use the technology devices, how to access their learning materials, and how to participate in a Station Rotation blended learning model. This was also the time period in which I taught my students the NetSmartz curriculum and encouraged the other teachers to teach their students the NetSmartz curriculum. During parent/teacher conferences, the blended learning concept was introduced to the parents of my homeroom students and an explanation of the Station Rotation model using a figure that visually displayed what occurs during a Station Rotation was shared with both the parents and students (See Appendix J). At that point, parents also learned about this study and how their children students would be participating.

First Phase of Data Collection

The first data collection period occurred over the duration of a week, for five days. During the first week of data collection, I kept a daily journal that allowed me to record my thoughts and considerations about blended learning in the classroom. I also viewed daily activities that occurred within the classroom and wrote reflections capturing any thoughts, challenges, concerns, successes, and processes related to the implementation of the blended learning model. These reflections included teaching procedures used in the classroom, student behaviors, challenges with implementing

blended learning, anecdotal stories that showed what was happening in the classroom, and any other occurrences that I felt were important to the study.

To help capture the thoughts and preparation that went into introducing the students to the blended learning environment prior to the start of the study, I filled out a teacher questionnaire. This questionnaire asked me to discuss what steps I took to get the students to participate in blended learning, what challenges I had to overcome, what procedures I had to teach, etc. This information helped in understanding how the students got to where they were at the time of the first data collection period and provided a little background information to aid in understanding the responses the students gave in their student interviews and questionnaires.

During this week of the first data collection period, each student was interviewed during a focus group interview. Three different interviewers interviewed the students that week: the researcher, the assistant principal, and the math instructional coach. The assistant principal and the math instructional coach each conducted one interview, and I conducted the remaining interviews. Within the interviews, students were asked to discuss their feelings and experiences concerning blended learning by responding to the five interview questions that were provided to the interviewer. Each child was only interviewed one time during that week's data collection period. At the start of the interview, the interviewer read a script that explained the study to the students. They were then asked the interview questions. The entire interview process was recorded using a desktop microphone and a software called Audacity. The recording was transcribed after the final data collection phase for future analyzing. Students did not say their names during the interview process, but rather they were assigned a number. As the

students were being interviewed, they said their specific number before replying. If the student forgot to say the assigned number, the person interviewing would say the number for the student. These numbers allowed me as the researcher to know which person was talking during the interview. The numbers also aided in keeping the students anonymous during the interview process.

Also during that week, the principal and literacy instructional coach was invited into the classroom to conduct an observation. They were encouraged to record what they observed in the classroom relating both to the actions of the teacher and to those of the students, as was discussed in the data sources section. These observations helped to provide a greater perspective of what was occurring within the classroom. During that observational week, the classroom was observed once by the principal and once by the literacy instructional coach. The principal and literacy instructional coach provided information about strategies that were successful, challenges that they saw, student actions, and other general information about the blended learning experience.

Along with the principal and literacy instructional coach observations, a district videographer was asked to come in during one instructional block. He fully captured was happening in the classroom during that time. The video recording that was recorded during that block allowed me, as the researcher, to complete an observation of the class. Reviewing that observation did not occur until after the second data collection phase was completed.

The final data source during that data collection period was a student questionnaire. Each student who had participated in blended learning within the teacher's classroom and who had parental permission was asked to complete a six-

question questionnaire. Students did not write their names on their questionnaires to assure anonymity of the data. The data were also not reviewed until the close of the second data collection period.

Interim Data Collection Period

During the three weeks in between the data collection periods, I wrote weekly entries in the interim teacher journal. Any thought processes that were pertinent to the study were recorded in the journal. For example, any changes in procedures I made, interesting interactions with students, or other information that influenced the blended learning experience in my classroom was recorded.

Second Data Collection Period

The second data collection, like the first, occurred over a period of a week, but only four days of data were recorded due to a snow day that happened in the middle of the week. During the second data collection period, the entire process that occurred during the first data collection period repeated itself. The only differences were that the assistant principal and math instructional coach each completed an observation and the principal and literacy instructional coach each conducted an interview. The district videographer once again recorded a class period to prepare for another researcher observation. I recorded daily journal entries in the teacher/researcher journal and conducted four student focus group interviews. I did not complete another teacher questionnaire as the questions in the questionnaire were not applicable to this point of the semester. See Figure 4 for a complete overview of the data collection timeline.

Time Period	Beginning of Semester	Mid Semester	Between Data Collection Weeks	End of Semester
Duration	1st half of semester	1 week	3 weeks	1 week
Data Collection Methods	Teacher began implementing blended learning (BL) as it would generally occur within the classroom. She introduced BL and adjusted instruction within her classroom as one would normally do during the beginning of a school year.	Teacher/ Researcher Journal	Interim Teacher/Researcher Journal	Teacher/ Researcher Journal
		Teacher Questionnaire		
		Researcher Classroom Observation (via video)		Researcher Classroom Observation (via video)
		Assistant Principal, Math Instructional Coach, and Researcher led Student Focus Group Interviews		Principal, Literacy Instructional Coach, and Researcher led Student Focus Group Interviews
		Principal Observation		Assistant Principal Observation
		Literacy Instructional Coach Observation		Math Instructional Coach Observation
		Student Questionnaires		Student Questionnaires

Figure 4. Data Collection Timeline

The observations and conversations with the students throughout those two weeks helped to document their experiences in becoming blended learners. Those conversations also helped to triangulate the results of the data that were collected. While there are many different data collecting methods associated with this study, each data source was thoughtfully selected to aid in answering the two research questions (See Figure 5).

Research Questions / Data Sources	What happens within an elementary classroom as a Station Rotation blended learning model is implemented?	What are students' perceptions of the Station Rotation blended learning model in an elementary classroom?
Teacher/Researcher Journal	X	
Interim Teacher Journal	X	
Teacher Questionnaire	X	
Researcher Classroom Observations (via video)	X	
Student Interviews		X
Administrative Observation	X	
Instructional Coach Observation	X	
Student Questionnaires		X

Figure 5. Data Sources Correlation to Research Questions

At the end of the semester, all of the data were coded and examined to identify reoccurring themes. Specifically, the data were analyzed to address the two research questions and to view how this information could be helpful to future blended learning educators.

Data Analysis

> Data analysis is the process of making sense out of the data…[it] is a complex process that involves moving back and forth between concrete bits of data and abstract concepts, between inductive and deductive reasoning, between description and interpretation" (Merriam, 2009, pp. 175-176).

Upon completion of the data collection, all of the daily journals, observation notes, and interview responses were coded and analyzed to reveal common themes. These common themes were looked at through the lenses of the research questions. Additionally, specific examples were shared to illuminate the findings and to allow deeper understandings by the readers.

Coding

According to Remler and Van Ryzin (2011), coding "refers to a process of tagging the text or other qualitative data using a system of categories" (p. 76). By coding the interviews, journal entries, questionnaires, and observational notes, I was able to sift through the data easier and pull out common themes in the data. Initially, I tagged the information according to the research question that it addressed (Merriam, 2009). Then, the data were dual coded to connect it to more specific categories. The information that was coded was heuristic in nature. This means that it contributed to the purpose of the study and encouraged me to think outside of the specific piece information (Merriam, 2009). Additionally, the bits of information that were pulled to be coded were large enough to stand alone and still make sense (Merriam, 2009). As I read and thought about the coding process, the following visual came to mind to aid in understanding the coding process (See Figure 6).

Qualitative software exists to help code qualitative data (Remler & Van Ryzin, 2011). It aids in storing, retrieving, coding, organizing and searching through the data. To code and process through the data in this study, I used QSR Nvivo, which is a qualitative coding software, and I used Microsoft Excel 2010. I began by completing an initial coding using QSR Nvivo to separate the data into the two research questions and then into the more specific categories. Once this was completed, I moved the data into Microsoft Excel 2010 and began sorting the data into general themes. Later in the data analysis, I looked at the general themes and was able to group them into even tighter, more specific themes which were the final themes presented in chapter IV and discussed in chapter V.

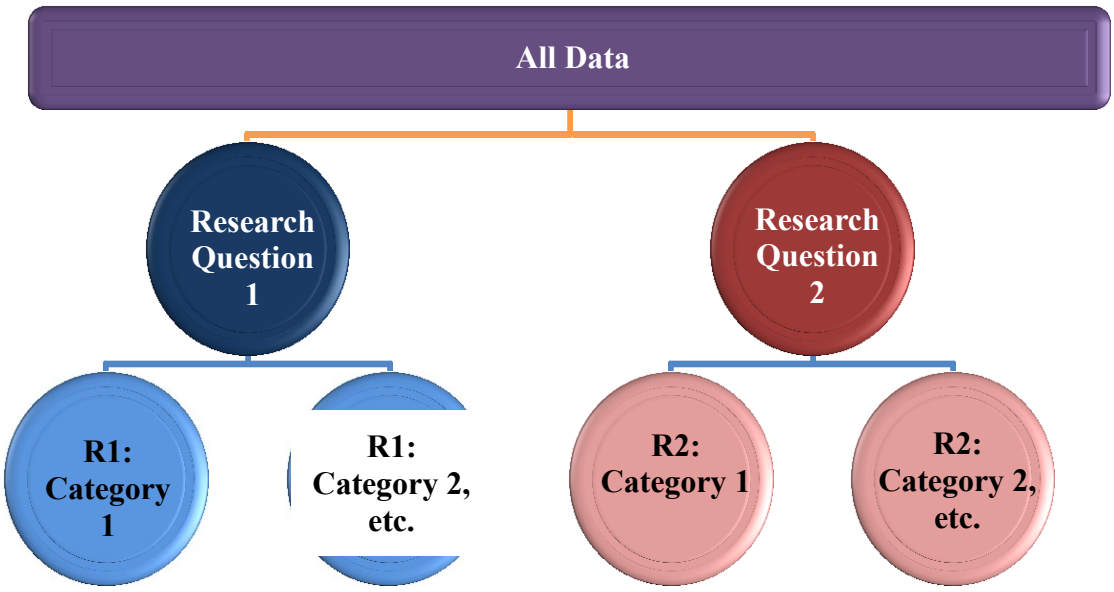

Figure 6. Qualitative Data Coding Visual

Trustworthiness

A concern that can arise when a researcher is the teacher in a study is keeping the validity of the data and results true due to the researcher being so intricately woven into

the study. Creswell (2007) suggests several strategies to assure the validity of a study is held pure. He suggests at least addressing two of the strategies within a study. In this study, the following five strategies were utilized: know participants, triangulation, peer review and debriefing, clarify researcher bias, and rich, thick description.

Know Participants

The first strategy is for the researcher to really get to know the participants and to build a strong level of trust (Creswell, 2007). While doing this, the researcher needs to learn the culture of the participants. This strategy was implemented throughout the study as it is common practice in a classroom for the teacher to get to know the students and their cultures. Since I got to know the participants, I was able to identify any misinformation that may have come out of the data sources. I had the opportunity to observe the occurrences firsthand in the classroom on a daily basis. I could verify that the information that was being recorded through the data sources and the information that was being observed were consistent with what I experienced every day. Since I was the researcher in the classroom, I had the opportunity to talk with the students to clarify their understanding and to look for any misinformation that may have presented itself.

Triangulation

The second strategy that was implemented in the study was triangulation (Creswell, 2007). Built into the structure of the study was an automatic triangulation that helped me check for validity. During each of the two observation weeks, the administrator and instructional coaches were asked to come into the classroom and make observational notes. They also conducted interviews to gain the students' thoughts on blended learning first hand. In addition to this, a short questionnaire for the students to

fill out was developed. This provided an additional means of recording students' thoughts. I also recorded daily notes of what occurred in the classroom through the eyes of the researcher and the teacher. Through all of these means, the data were easily triangulated and aided in keeping the validity of the data.

Peer Review and Debriefing

A third strategy is peer review and debriefing (Creswell, 2007). A peer debriefer is someone who "keeps the researcher honest; asks hard questions about methods, meanings, and interpretations" (Creswell, 2007; Lincoln & Guba, 1985). Within this study, my research committee chair and other committee members took the role of the peer debriefer. They were the ones who asked the tough questions that helped keep me focused on seeing the true picture of what the study was presenting.

Clarify Researcher Bias

The fourth strategy that was used to assure the validity of the study was clarifying researcher bias from the very start of the study (Creswell, 2007). It was important for me as the researcher to reflect on past experiences, biases, and prejudices that have shaped who I am and that have defined where my thoughts and ideals have come from. These biases and assumptions could influence my perceptions of the study's outcomes purely because they are such a large part of who I am. By stating these biases and assumptions, I was much more aware of them and could be more careful in the interpretation of the data. Also, by stating these biases and assumptions, it gave others a deeper understanding of the conclusions I made about the data.

Rich, Thick Description

Finally, the fifth strategy that was used to ensure validity in the study was the use of rich, thick description in the writing of the results (Creswell, 2007). Through this description, the readers were able to "see" what took place in the study. At different times, the data were presented in a way that painted a picture of the participants, locations, and happenings within the study. This could be helpful to the readers as they try to determine if the study is transferable to their own situations. Within this study, rich, thick description was used to describe specific examples within the blended learning classroom and how students were interacting with the learning model. All of these strategies were helpful in presenting what happened during the implementation of the Station Rotation blended learning model in the third grade classroom.

Summary

In this chapter the methodology of this study was discussed. This case study included one class of Title I students from a Midwestern state. Within this study, various data sources were used including journal entries, questionnaires, observations, and student focus group interviews. These data were collected by the researcher, the teacher, a principal, an assistant principal, a reading instructional coach, and a math instructional coach. Through multiple levels of coding, the researcher was able to tease out various themes that answered the two research questions.

CHAPTER IV

RESULTS

Introduction

The purpose of this study was to give educators and other individuals who are interested in the Station Rotation model of blended learning an opportunity to view the events within a classroom as this model was being implemented. This study was designed to share the thought processes that went into the blended learning model as it was being introduced and practiced within the elementary classroom. This study also tells the story of a class of third graders who were given the opportunity to experience blended learning within their classroom. The perceptions of blended learning from the viewpoint of the third grade students have been collected, as have the considerations that I made, as the teacher, along the journey.

The following two research questions were used to guide this study:

Q1 What happens within an elementary classroom as a Station Rotation blended learning model is implemented?

Q2 What are students' perceptions of the Station Rotation blended learning model in an elementary classroom?

Data were collected through various methods: teacher/researcher journals, a teacher/researcher interim journal, researcher classroom observations (through the process of video recording the classroom and then observing the video footage), administrative observations, instructional coach observations, a teacher questionnaire,

student focus group interviews, and student questionnaires. All of these data were coded for general themes and then recoded for deeper themes. While much of the data were collected over two separate data collection windows, the results of the data were so similar and the window between the data collection periods was so short that the results have been combined and shared out based on the research question and the corresponding data collection methods.

Implementation of Blended Learning

The first research question was answered using the teacher questionnaire, the teacher/researcher journals, and the observations. Due to there being three sources of data, there was a large quantity of information to report out. Figure 7 has been provided to guide the reader in seeing the information at a glance.

The first research question to be answered in this study is "What happens within an elementary classroom as a Station Rotation blended learning model is implemented?" In order to answer this question, three different types of data were collected. The first type of data was in the form of a teacher questionnaire in which I, as the teacher, shared what I had considered around the implementation of blended learning in my classroom and how I introduced blended learning to my students prior to the start of the study.

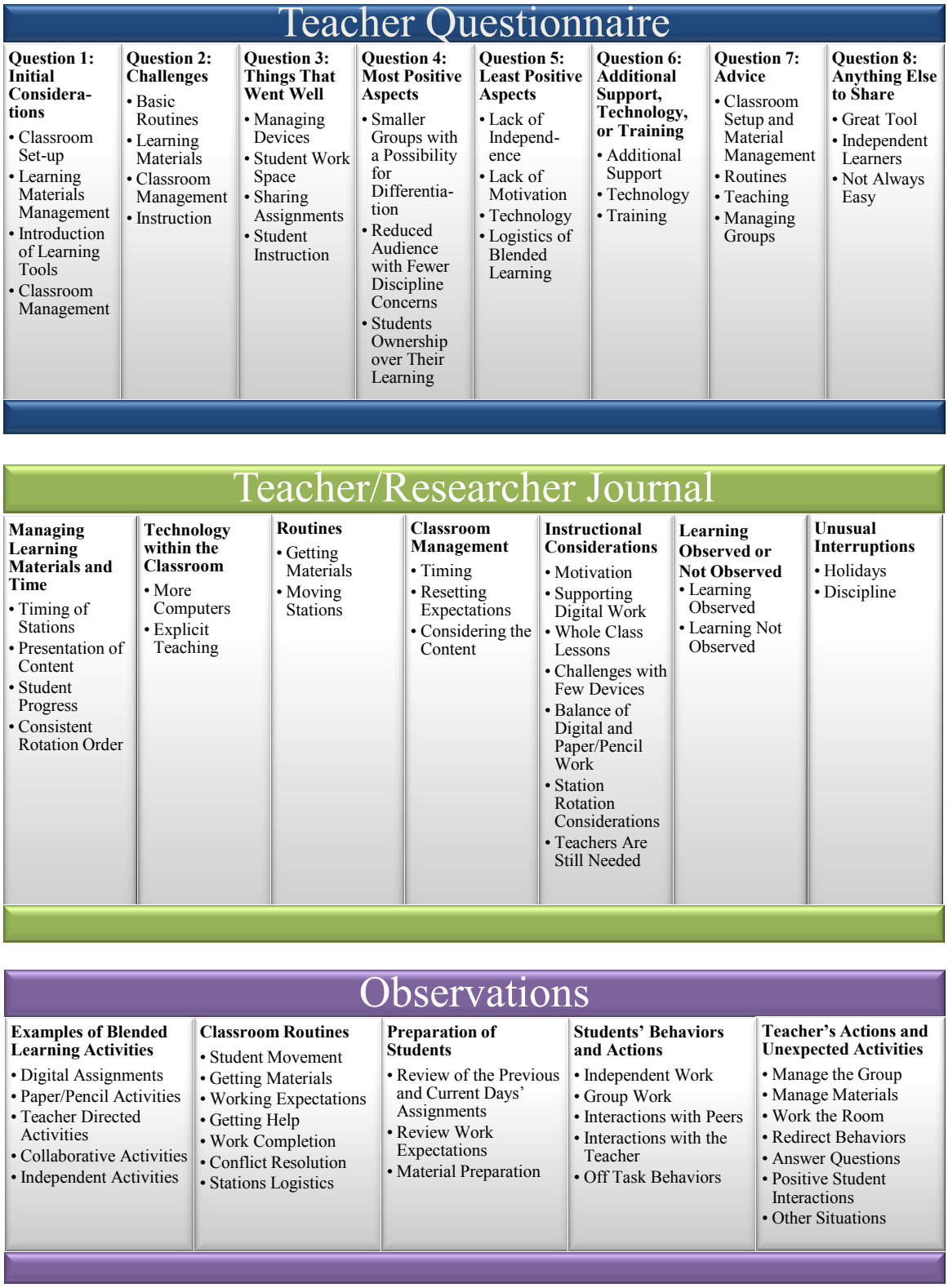

Figure 7. Research Question 1 Overview

The second type of data collection was taken in the form of a teacher/researcher journal. This journal was completed during both of the two data collection periods and during the interim period between the data collection periods. The journal is similar to the teacher questionnaire in that it allowed me to express the considerations that were being made during the blended learning implementation. The largest difference, however, is that the journal did not give specific questions to guide the journal entries. Another difference was that the content in the journal entries was only about what was happening during that specific data collection period.

The third type of data collection was in the form of observations. During the study, my classroom was observed by two administrators, two instructional coaches, and twice by me, as the researcher, via two videos recorded by a district videographer. The results and themes that came out of each of these data points were shared out separately, so as to completely understand what was observed in the classroom and in the thought processes around implementing the Station Rotation blended learning model in the classroom.

Teacher Questionnaire

Within the teacher questionnaire, the following eight questions were asked:

1. Explain how you first introduced blended learning to your students and some of the considerations and changes you made as you began your implementation.
2. What have been some of the challenges you have faced, and how did you overcome them?
3. What have been some experiences that went well with blended learning?
4. What are the most positive aspects of using the blended format to teach?

5. What are the least positive aspects of using the blended format to teach?
6. Is there any additional support, technology, or training you feel could be provided that could help you in using the blended format to teach?
7. What advice would you give a teacher considering using the blended format to teach?
8. Is there anything else you would like to share about your implementation of blended learning in your classroom?

Question 1: Initial considerations. The first question on the teacher questionnaire was "Explain how you first introduced blended learning to your students and some of the considerations and changes you made as you began your implementation." When I began thinking about blended learning and started introducing the model to my students, there were four different areas I mentioned. These areas included classroom set-up, learning materials management, introduction of learning tools, and classroom management.

Classroom set-up. As I began the school year, I had to consider how I would set up my classroom. I first thought about the physical space within my classroom. One of the areas I considered was what the traffic flow in my room would look like, as well as the seating arrangements. This is what I shared:

> Introducing blended learning to my students and the considerations and changes I made as I began my implementation actually began before I even had students in my classroom. As I set up my classroom, I really thought about the pattern of traffic. I knew that I needed an easy place for the students to get the laptops and to be able to keep them in one place without having to move a ton of furniture every time we wanted to do blended learning. Last year, I was constantly moving furniture and stacking and unstacking the laptops. This year, I placed two tables side by side in the back of the room. I figured there would have been enough room that we could set up the laptops in the morning and not have to move them until the end of the day.

Another consideration I made was around the actual devices and headphones. After trying to work with these devices the previous year and struggling to find a good way to manage them, I purposefully put more thought into this area this year to make life in the classroom a little more manageable. I shared what I did:

> I also thought a lot about how to manage the headphones. I just couldn't find a good place to put them last year without the cords getting all tangled. This year, I put Velcro strips on them to wrap up the cords, and I have them in a basket that will be very easy for the students to get. Another challenge I had last year was how to charge the eight laptops. I was always having to stack them up and didn't have enough plugins to charge them all at the same time. So, this year my husband and son put together a metal shelving unit for me. On each shelf, we ran two of the charging cords and zip tied them, so the plug for the computer hangs out of the front. The rest of the cords are guided to the floor below the shelves and plugged into a power strip. Now, we can just place two laptops on each shelf, and plug them in--a self-made charging center.

Learning materials management. Another area of consideration that was made early in the semester was around the actual learning materials that the students would have to use. I found that the previous year, my students were not able to keep track of all of their blended learning papers. This year I decided to have the students begin with Blended Learning Notebooks to aid in this struggle. As I did this, I gained a new awareness around the basic use of the 3-ring binders with third grade students. This is my explanation around the Blended Learning Notebooks:

> Last year, the students really struggled with keeping track of all of their papers, so I began using Blended Learning Notebooks for them to keep all of their materials in. This was very helpful. So, this year, I decided to start this right off. Did you know that 3rd graders don't know how to work 3-ring binders?! And then I added dividers! Talk about a learning curve for them. We will continue learning about these for a while!

I also had to think through a way to allow the students to know their login information without having to pass out cards with the login information to every student every day. I stated:

> To assure that [the students] would be able to be independent in logging in, I gave each student a hole-punched piece of yellow cardstock with the Zearn web address and their logins and passwords on it. We will add to this card all year as we get onto more systems.

A final aspect I mentioned about the learning materials revolved around the digital content that the students would be working on. At the start of the year, I had to enter each student into the digital program that they would be working on and assure that they each had access to that content. I voiced that this became a little stressful due to not beginning the process earlier. In the questionnaire, I mentioned the following:

> I had to rush to get kids' accounts into the Zearn system because I did not get on top of it soon enough, and I wanted to start that day. I wouldn't recommend doing that. It is super easy, but takes a little time, so when there is an immediate deadline, it gets a bit stressful.

Introduction of learning tools. Another aspect of implementation was the consideration of blended learning and the learning tools that had to be introduced to the students. I mentioned that I noticed that my students were very ready to learn through technology on the very first day that I introduced this model to them. I explained it this way:

> On the first day of school, I shared with my students that we would be doing a lot of blended learning in our class, and I explained what blended learning is. I know that these students are ready for more access to technology, as it is very obvious that our students are digital natives. It was so cute! As the students were coloring, one of the girls told her friend "I had a glitch; my hand froze"… They even talk technology!

I then went on to explain how I first introduced the laptops to the students and how they were able to learn even from this very first introduction that sometimes we make mistakes while using technology, and it doesn't always go as planned.

> … I introduced the students to the laptops as a whole class. As I was trying to show them how to shut the computer down, I accidentally push the restart button, so the students got to learn what happens if they do that. I pointed out to them that it is actually a good thing when something goes wrong while I am teaching them about it, so they can know how to problem solve it themselves if it ever happens to them. I am also of the mindset that by showing them that we can remain calm and in control when things don't go quite right that perhaps they will also learn to have that easy going mentality when they face difficulty…It was neat! One of my boys really picked up on the idea that it is good to see a mistake happen, so they can learn what to do. Yes! They got it.

Along with the devices that I introduced to the students came the digital content. I took care to introduce the digital content in a very explicit manner to assure understanding in my students. I shared about my initial introduction of the digital content to my students:

> I then introduced Zearn to my whole class. I talked them through how to login and then we actually worked through lesson one together, so they would know what to expect. The students seemed very excited and wanted to know when they would get a chance to get on themselves.

I also explained that at the start of the year I chose to not actually run the Station Rotation blended learning model at first. Instead, I brought my class to the computer lab, so I could be free to help students get comfortable with technology, to get help logging on if needed, and to have any support they might need from the teacher as they began learning how to complete the work in their digital content. I also discovered areas of the digital content that I needed to learn more because the digital content they were using was new to me, as well. I shared the experience this way:

> At the start of doing blended learning this year, I was fortunate that the computer lab was available for me to take my entire class to the lab at the same time. This allowed me the opportunity to walk around and just really help the students get comfortable with the computers, Zearn, logging into the computers, logging into Zearn, and just trying to work independently…Once there, I sat everyone down and showed them on the big screen how to login. I also oriented them with their notebooks a bit and the web browser. They really did quite well once they got on. A couple of challenges were that some of the kids thought they knew their logins, but when they really looked at them, they hadn't realized that there was a number after their login name … Another challenge we had was that some of the kids missed when they were supposed to write in their notes, but I didn't know how to have them go back to fix that at the beginning of the year. It took some playing with the software to figure out how students could go back and rewatch portions of the digital content.

Classroom management. A final area that I spoke about was classroom management. My biggest concern at the beginning of the year was with how talkative my class was. I shared that it took some practice for them to be ready to even go to the computer lab to try out their digital content. I voiced my concern in this manner:

> The biggest challenge at the start of actually trying out blended learning was that the students talked A LOT, so we lost a lot of time waiting for them to be quiet and to then learn the new concepts or to move to the computer lab. We practiced lining up several times before we could go to the computer lab.

Summary. The classroom set-up, learning materials management, introduction of learning tools, and classroom management were four areas that I shared were important areas to be considered at the beginning of implementing a Station Rotation model with a classroom. While addressed early in the year, these areas helped to build what the classroom would look like as I began to fully implement this learning model into my classroom.

Question 2: Challenges. The second question on the teacher questionnaire was "What have been some of the challenges you have faced, and how did you overcome them?" I addressed several challenges that I faced during the early implementation of the

Station Rotation blended learning model in my classroom. I found I was challenged in the areas of routines, learning materials, classroom management, and instruction. The following shares what the challenges were and how I chose to address them.

Challenges with basic routines. One area that I found challenging was in the basic routines that needed to be put into place within the classroom. One of these areas was around the way the students were moving in between stations. The students would do an excessive amount of talking while they moved and would take a long time to get settled into their new station. To help with this, I set up clear expectations around how the students should move between their stations. I was very careful to "break the students' movements down into steps, so they [could] be successful on each part of the routine."

Challenges with learning materials. Another challenge I found in the early stages of implementation was that students struggled with being able to know their login information. Students were being asked to logon to various different websites with a variety of passwords and logins. In order to help my students, I gave each student a hole-punched, yellow piece of cardstock and put their login information on it. I printed the logins on a computer using Microsoft Excel, so all I had to do was cut the login cards out and glue them onto the cardstock. I saved time by printing this information out instead of having to write it onto each of the students' yellow cards by hand. The students then kept this card in the front of their blended learning notebooks.

Another challenge I had to work through was having students constantly misplacing their work. In order to help work through this constant battle, I had each

student keep all of their work in a Blended Learning Notebook with tab dividers. I shared this information about the binders:

> [Having] the students keep all of their [blended learning] work in one binder with tabs… really helps keep things together. We did have to have a lesson in how to use binders and tabs. We also had to work through the idea that although binders make a cool snapping noise when they open and close, that doesn't mean we should keep playing with them. All of the [blended learning] binders are kept in crates near the laptops. This way the desks can't "eat" the students' work. Getting binders [out] and putting them away took another routine that had to be taught, practiced, retaught, and practiced again from time-to-time.

Challenges with classroom management. Another challenge area I had to work through was related to classroom management. As is typical of any young students, it is not uncommon to have students who wish to mess around instead of work. To help with this, I created "islands" for the students to work at. Islands "are desks that are isolated from other individuals that help the student at the island focus on his work."

In addition to the islands, I created smaller groupings of students to work at the computers—so instead of one large group of eight students, I split the tables apart, so there were two smaller groups of four students each. I also allowed some of the students to sit at a round table in the back of the room, as well as at a couple of isolated desks. This separation of the devices helped to spread the students out a bit and aided in the students being able to focus better in order to complete their work. Another strategy I used to help students stay on task was to simply glance around the room every couple of minutes to assure that all of the students were on task and to also take a couple of minutes during each rotation to walk around and help any students who were struggling with their work.

Challenges with instruction. In addition to these other challenges, I had to figure out how to deal with five challenges that related to the instruction of the students. The

instructional challenges I experienced were students having a difficult time successfully completing their digital content independently, working with software I was not familiar with, having students keep up with the district's pacing, running a blended classroom with a guest teacher, and having the students transfer their learning from the digital content to paper/pencil work.

Successful completion of content. The first challenge was finding a way to help students successfully complete their lessons on the digital content without having me there all of the time to support them. Unfortunately, this was not happening. There were some students who were not able to complete their work without my support. Therefore, I opted to take myself out of the station rotations. This is some of my thinking around this choice:

> Instead of leading one of the stations, I took myself out of the rotation and enabled myself to be 100% available to the students. This allowed me to help students who needed support, and it was a nice way to help with discipline, too. With this change, I then had a technology station, a collaboration station, and an independent work station (in which the students could quietly use peer support if they needed).

New digital content. The second challenge I had to work through was the students working with software that was new to both the students and to me. I shared my thinking about this challenge:

> I had to be patient and give myself time to learn the software. I let my students know I was learning the software along with them, so while I may not know all the answers to all of their questions right away, I will figure them out and let them know. I saw if there was an option for the teacher to work through any of the lessons, so I could become familiar with what the students are doing, with the type of questions being presented, and how to interact with the software. There was, so I was able to go through a lesson and see exactly what the students were experiencing.

Pacing. While learning this software, I began to see a third challenge that I needed to work through. My students were not able to keep up with the pacing that was required by the district in order to be ready to take the district's common unit assessment. In order to counter this challenge, I put three different strategies into place.

The first strategy I implemented was every week I reserved one day as a "catch-up" day. On that day, the students who had not completed the required number of lessons had an opportunity to spend the entire math period completing digital content, so they could get caught up. The students who did have the appropriate number of lessons completed were able to dive into story problems, multi-step problems, and messy problems that allowed them to work more deeply on the concepts they were learning. Messy problems are high level problems that require the students to demonstrate flexible thinking and a deep understanding of the concepts they are addressing. Oftentimes, there is more than one correct way to solve these problems.

The second strategy that I put into place, with the help of the other third grade teachers, was digital homework. I explained to the parents during parent/teacher conferences that their students would soon have digital homework. Twice a week, I would send the digital assignments home as homework. With this strategy, I did offer a word of advice:

> Please note: With this solution, there will be some parents/students that will push back because they are not accustomed to this type of homework. There will also be those students who may not have access to the Internet in their homes, so they will have to go to the library, visit a family member or friend who has Internet, or look at obtaining a device and Internet to use at home.

The third strategy that I put into place to aid my students in completing the appropriate amount of lessons each week was Technology Tuesday. Technology

Tuesday was designed for the students who didn't have access to the Internet at home or for those students who wanted the support of a teacher as they were completing their digital homework. This group of students would meet for one hour right after school each Tuesday. The three third grade teachers in the building took turns supervising this group of students, so each teacher only had to take a turn supervising the students once every three weeks. Therefore, the time commitment on each teacher's part was minimal. During this hour, the students had access to technology and to a teacher to support them in completing their digital homework.

Guest teacher. Running a blended learning classroom with a guest teacher (substitute teacher) was the fourth challenge that I had to think through. I was fortunate that I only had to do this one time during the semester. On that day, I chose to have the guest teacher run the Station Rotation blended learning model more as a Class Rotation model. In this model, I asked the guest teacher to take the entire class to the computer lab for the first half of the class period. While there, all of the students worked on the digital content. Then, for the second half of the class period, the guest teacher was asked to help the students work through a paper/pencil activity in their blue math workbooks. I did contemplate what I could do if the lab were not available:

> I imagine that if [it wasn't possible for my guest teacher to take all of the students to the computer lab], I could just ask my guest teacher to have the students do their paper/pencil work or have them dive into a messy problem to practice the skills they had been working on. I also imagine that if the students know the routines well enough, they would be able to run their stations even without the teacher there. I am not sure that my current group would be very proficient at this due to the fact that they need many reminders during the rotations as to how to work, how to move, how to get needed support, etc.

Transferring learning. The fifth and final challenge I reported having to deal with was the fact that although the students were successfully completing their digital content,

they were having a very difficult time transferring what they were learning from the computer to what they were doing when showing their learning on paper and pencil. This is a challenge that I was still working through as was evidenced in my words about this challenge.

> Another challenge I have seen is trying to help the students connect what they are doing on the computer to the things they do outside of the computer. Our district has chosen Engage NY as its math curriculum. Zearn is a computer based program that is directly linked to the Engage NY lessons, so the practice pages and homework pages in Engage NY match perfectly with what the students are learning. What I am finding, however, is that when the students are asked to complete their practice book pages, they have no idea what to do. It is as if the work on the practice book pages is brand new content, and the students are being asked to try to figure it out on their own. The students are always saying how hard the work is, and their off-task behavior in this station just shouts task avoidance. Honestly, this is a problem I am still trying to figure out how to remedy. I think I will take one of the lessons in a small group setting, play the math chat video (the lesson on Zearn), and then show the students how the video lesson and the practice page is the same exact concept. Maybe this explicit teaching of how they connect will help students realize they need to really pay attention to what they are learning digitally, so they can be successful when they are asked to do something on paper.

Summary. Routines, learning materials, classroom management, and instructional considerations all create interesting challenges within the classroom. Some of these challenges are easily solved by putting a routine into place or by developing a management system for students' classwork. Other challenges are not so easy to address and require more time to master. Regardless the challenge, the teacher is placed in a position that requires great thought about every aspect of the blended learning classroom. Sometimes, teaming with coworkers can help alleviate the challenges, but other times, the teacher must be innovative and work to find a reasonable solution to the everyday challenges herself.

Question 3: Things that went well. The third question that the teacher questionnaire asked was "What have been some experiences that went well with blended

learning?" I commented on four areas. The areas were managing devices, student work space, sharing assignments with the students, and student instruction.

Managing devices. One of the first tasks I had to figure out was how to manage the devices. During the previous year, I had to stack the devices behind my desk, charge a few of them at a time, and then switch the cords to charge a few more devices. As for the headphones, I tried to drape the headphones over the side of a plastic crate and then hoped that they could be passed out carefully and that the cords would not get tangled.

This year, I created a charging dock for the laptops. I had my husband and son put together a wire shelving system that allowed me to put two computers on each shelf. I then threaded the charging cords up the sides of the unit and fastened them to the frame using zip-ties. This allowed me to create a charging dock that was both easily accessible and that allowed all of my devices to be charged simultaneously.

On top of the charging unit, I placed two plastic baskets. The students stored the headphones in the basket. To prevent the cords from tangling, I secured the cords with Velcro strips. This whole system was much more effective than the stack and charge method that I had used last year. It also aided students by providing quicker and easier access to the devices.

Student work space. To aid the students in actively being engaged in their digital content and not being distracted by working in a large group, I set up the technology station so that only a few students were working next to each other at the same time. By limiting the number of students in a group, I enabled students to still have peer support if they needed it, while reducing the number of distractions around them. I did find that for some students, this setup was still not structured enough, so I created islands for them to

work at. Islands were individual desks that were placed away from the rest of the groups. These islands gave individuals who needed to be a greater distance from the distractions of their peers a place to focus and work.

Sharing assignments. Sharing the assignments with the students in an organized and easily accessible manner also proved to be an important and successful strategy. I mentioned two different ways that I presented the students' work to them—using the board to display the assignments and creating a checklist to be placed in their blended learning notebook. I explained the way I wrote the assignments on the board.

> I just wrote them on the board this year. I would add each day's assignment as I was explaining the day's stations, and then I would tell students that if they get done early with today's assignments, they were expected to go back and finish previous work. Sometimes, I would allow for a catch up day if the previous day's rotations were unusually short or if the students were struggling with the lessons.

In the previous year, I had created a little check list that listed the assignments out for the students. The students would place this checklist into their binders and were able to physically check off the assignments as they were completed. I reported that this also worked well with the students.

Student instruction. Another area that went well for me was the area of student instruction. I found that working with teaching Internet safety, dealing with student absences, and presenting Math Minute Mini Lessons were all successful strategies for working with the students.

Internet safety. One area that was extremely important to me was assuring that my students knew how to be safe while interacting with the Internet. I introduced my students to Internet safety by teaching the Netsmartz program. This program is designed specifically to teach elementary-aged students how to be safe while using the Internet.

Besides just helping students know how to be safe on the Internet, teaching the students about Internet safety also helped parents feel more comfortable by knowing that their children had learned about keeping themselves safe and protected while using the computer and working online.

Student absences. Another area that went well for me involved students who were absent due to illness or vacations. These students needed help staying caught up with their school work during their absences. Blended learning was helpful with this task. I told this story:

> I had a parent who knew her [child] was going to miss quite a bit of school ask me for homework, so her student could stay caught up with his learning. She did say that they would have Internet access, so I was able to count out the lessons [in math] that he would miss and then send the Notes pages and homework pages home with him. He was then able to complete these lessons while he was absent and was able to keep caught up with the class. The parent was very excited and relieved when she heard about this possibility for her son.

Math minute mini lessons. Another piece that I put into place that was very successful was the Math Minute Mini Lesson. These mini lessons were quick one or two minute lessons that addressed a skill that many of the students needed to learn or that many students had already been asking for support on. I explained:

> I have created Math Minute Mini lessons for my students. When I see a concept that many students are struggling with while we are working during our stations, I pause the timer and call everyone over to the board, so I can teach a mini lesson for 1-2 minutes. I make it a big deal by asking all of the students to stop what they are doing and to hurriedly come over to the floor. I am not concerned about where the students are seated on the floor just that they are close enough to pay attention. The students have really seemed to like these mini lessons and really pay attention because they only have to pay attention for a couple of minutes. I have really enjoyed these lessons because it allows me to give students information they need when they need it. It also allows me to avoid having to repeat the same lesson over and over. I can also leave the mini lesson on the board, so if a student asks me the same question

again, I can just refer that student to the board and remind her of what I taught the class.

Summary. I found many things that went well during blended learning including managing devices, creating successful student work spaces, sharing assignments with the students, and providing strong student instruction. All of these things were reported as going well during my implementation of blended learning in my classroom. On a similar note, the following will share what I felt were the most positive aspects of blended learning in my classroom.

Question 4: Most positive aspects. The fourth question that was asked on the teacher questionnaire was "What are the most positive aspects of using the blended format to teach?" I discussed three areas that I felt were positive aspects of blended learning. These included smaller groups with a possibility for differentiation, a reduced audience which leads to fewer discipline concerns, and student ownership of their learning.

Smaller groups with a possibility for differentiation. One of the positives about blended learning that I expressed was that I had the ability to work with smaller groups of children at a time. With a class of 27 students, it can be challenging to get around to all of the students and provide them with the one-on-one help that they need. When working in a three Station Rotation environment, however, the children are working in groups of about nine students. This allowed me the opportunity to really work with individual students without trying to meet the needs of 27 students at one time. I found that it was much easier to answer the questions student asked, do some mini-lessons, and really get to know where the students were when using this model.

Another benefit of this smaller grouping of the children was the flexibility of how the students were grouped. I reported that I could group the students homogeneously or heterogeneously based off of ability levels or behavior needs. I could also randomly select the way the students were grouped if I so desired. At the point of the questionnaire, I reported that I had my students grouped heterogeneously by ability levels in order to support my lower academic students.

Reduced audience. Another positive that was reported about using the blended learning model is that there is a reduced audience for students who act out behaviorally. There are times when students will act out simply to get the attention of their peers. When these students only have one-third of the class group to interact with, a lot of the power they normally have by acting out in front of an entire class is reduced. This, in turn, reduces some of the behavior issues that are sometimes seen in a classroom. In addition to this, by controlling which students are together in a group, more discipline problems can be avoided. If two students are not able to work together, the teacher can simply place them into different groups.

I told a story about how I was able to strategically place a student in the room who struggled behaviorally during the rotations. This was a good example of how the Station Rotation model can help with focus and behavior.

> As I write this point, one of my students immediately comes to mind: Liam. Liam is a very spirited boy who has a very challenging time staying focused and making good choices when he is around his friends. When we first began BL [blended learning], Liam was allowed to sit by his peers when he was working in the technology station, but it became obvious very quickly that this arrangement was not going to work for him. That is when I developed an island for him to sit at. Liam's island was located far away from the other students. He was positioned in the front, right corner of my room, so I could still watch him and support him as needed, but his peers were a great distance from him. This did help him keep his focus on his academics instead of his friends. The island was a

> great strategy to prevent Liam from distracting his friends. Now, we just need to work on actually completing the work and not just sitting there. That will be a problem for another day.

Students' ownership over their learning. Another positive that comes out of utilizing the Station Rotation blended learning model in the classroom is that students are able to have some control over their learning. I explained it this way:

> Students begin to take ownership over their learning. I have had students who see that there are, let's say, 24 lessons in a mission (unit) and are determined to finish all of their lessons before the test. They start planning out how many lessons they need to complete each day and ask for a certain number of homework pages to complete, so they can make their goal. In 15 years of teaching, this is really the first time I have seen students really begin to take control of their learning. The excitement I see in the students is so refreshing. So often, many of my students complete their work just because the teacher said they had to. Now, I am beginning to see students complete their work because they are self-motivated to successfully complete their lessons.

I shared a story of a boy in my class who really struggled at the beginning the year with keeping up with the class and with the curriculum. Through blended learning, he became a confident and motivated learner. See Appendix M to read Desmond's story.

I also commented that some of the students realized that by keeping up with their work, it was easier to complete all of the tasks required of them. This awareness was motivating to some of the students and encouraged them to keep on top of their lessons. I was not surprised by this realization, however, because the lessons taught the students how to do the work. Therefore, if they learned how to do the work, it would make sense that it would be easier to complete the required tasks. This concept was not as obvious to some students, however, and they had to learn this concept for themselves by first experiencing the challenges that came with not keeping up with their lessons. This difficult learning could be seen in Tate. To read Tate's story, see Appendix N.

Summary. I reported three positive aspects that showed up in my classroom while implementing a three Station Rotation blended learning model in my classroom. The first positive aspect was that smaller groups provided a possibility for differentiation within my classroom. Another positive aspect was that a reduced audience for students supported those who struggled working in the classroom without causing disruptions to their peers' or their own learnings. Finally, the third positive aspect was that blended learning encouraged students to own their learning and to begin challenging themselves in the completion of their academic lessons.

Question 5: Least positive aspects. The fifth question on the teacher questionnaire was "What are the least positive aspects of using the blended format to teach?" I shared four aspects of blended learning that were not so positive aspects of the model. These included lack of independence in the students, lack of motivation, technology, and the general logistics of blended learning.

Lack of independence. Blended learning requires a certain amount of independence on the part of the learner. This independence, or lack thereof, was one of the aspects of this model that I reported as not being so positive. I reported that many third graders do not come into the third grade classroom knowing how to act as independent learners. For the past three years of their education, they have had much of their learning "spoon fed" to them, and they have not been expected to work independently for longer than a few minutes at a time. I pointed out that with blended learning, students are asked to be independent learners for an extended amount of time while they are completing their digital content. I did mention that most of the students have done a great job stepping up to this new level of expectation. There were some

students, however, who needed reminders to "pay attention to the lessons being taught, to complete their written work, to not talk with other friends, etc."

Lack of motivation. Another challenge that was very much related to the lack of independence was the lack of motivation. It was very challenging for me to try to keep students working when they were not motivated to work. This is a problem that is seen in the traditional, as well as the blended classroom. In the questionnaire, I reported making attempts to move around the room frequently in order to support the students who needed the extra help to keep motivated. I also reported, however, that these efforts seemed futile at times because the students would only remain motivated to work as long as I was standing right next to them working through the problems with them. As soon as I moved away from these students, they would either mess around or simply not do anything. I explained what I was noticing by telling the stories of Ryder and Liam.

> Ryder is a great example of this challenge. I would sit with Ryder and help him through a problem. Then, I would encourage him to try the next similar problem by himself. I would no sooner than cross the room than his hand would be up again. "I don't know what to do" was his comment. I was rather puzzled by this behavior because I even saw this on questions like 4x5=___. I would help him count by 4's five times to get the answer. The next question was 4x6=____. So, I would encourage him to keep going. Two minutes later his hand was up again. I know that when he tried Ryder was able to complete this type of problem. The challenge was how to motivate him to do it independently.
>
> Liam was also good at this, only he didn't raise his hand to get help. He would just sit there and toggle his screen between the Zearn curriculum and the Windows screen. He was very good at watching where I was and every time I'd come near, he would pretend to be busy. It became very obvious that he wasn't doing his work when he had only completed one or two lessons after being on the computer for [a total of] two or three hours [over the period of several days].

Technology. Another point about blended learning that was reported as not being positive was some of the challenges that came from the technology itself. I shared that sometimes accessing the digital content was very challenging because the devices would

not load correctly or because the Internet connection was weak. This would cause the students to not be able to bring up the curriculum.

I also reported that due to the building only having a limited number of devices for student use, there were often challenges created simply because there were not enough devices to go around. When a grade level was expected to conduct online testing, the technology would be pulled together to be used to administer the assessments. When this happened, blended learning stopped. I felt fortunate that I had written a grant a couple of years prior to this study which allowed me to always have a few devices in my room. I watched as the other teachers in my building were not able to continue implementing the blended models within their classrooms because they did not have access to the necessary devices.

Logistics of blended learning. The logistics of blended learning was another area that I reported as having a potential to be challenging. I shared that when a teacher begins implementing a Station Rotation blended learning model within the classroom, the teacher has many things to think about for each and every class period. I shared that the teacher has to think through every aspect of the classroom and how it will look during each of the rotations. As I was reflecting on this question, I provided a list of questions that I had to think about when I was implementing this model in my classroom.

- How do students get devices? How are the devices returned?
- How do the students get support if there is a technology problem?
- When groups rotate, what does it look like?
- Where are the materials stored for each station? Who gets the materials?
- Where do students store their work?

- Can students sit or work together?
- Is the teacher actually teaching a group, or is she floating around supporting the students?
- How many rotations are going to occur during a class period?
- Are there enough devices to support this number of rotations?
- What curriculum will be used?
- What routines will be put in place so that the students will know exactly how to move to and complete each station in a timely and efficient manner?

These questions aided me in designing a classroom that would allow my students to effectively learn in a Station Rotation blended learning model, but they also required a lot of thought and action on my part in the beginning.

Summary. Four main challenges of implementing blended learning in the classroom were reported. One area was the lack of independence in third grade students to complete work without the constant guidance of a teacher. Another area was the lack of motivation that some students exhibit when being asked to complete their work. A third aspect was working with the technology itself. Whether it was poor internet access, digital content that did not accurately load causing problems for the students to access their digital content, or an insufficient quantity of devices in the school building, these challenges made it difficult for the students, other teachers, and I to continue implementing a blended model. Finally, the logistics of implementing a Station Rotation model in the classroom caused challenges for me simply due to the large number of

considerations that needed to be addressed whenever I was conducting the learning model.

Question 6: Additional support, technology, or training. The sixth question asked on the teacher questionnaire was "Is there any additional support, technology, or training you feel could be provided that could help you in using the blended format to teach?" I addressed each of these three areas: additional support, technology, and training.

Additional support. I mentioned that for additional support I would like the opportunity to meet with other blended learning teachers to address some of the challenges I saw in my classroom. During the study, there were few teachers I could discuss blended learning with since I was primarily the only teacher fully implementing blended learning in my school building. I explained:

> There are times that I feel I am on an island all by myself, and I have to figure this out all on my own. It would be nice to see how other teachers run their classrooms and how other students work in a blended learning setting.

Technology. As I contemplated the idea of additional technology, I shared that I would like more devices for my students to use. Ideally, I would have liked one-to-one devices (one device for each student) within my classroom to allow for greater flexibility in how I made my groups and how I ran my stations. I explained that the size of the groups I was currently assigning were entirely dependent on the number of devices I had in my room. I was not given the flexibility of assigning larger groups or even whole class access to digital content unless I brought the entire class to the computer lab.

Training. When asked about what further training I would like, I replied that support with both the digital content that my students used and with how to help my

students transfer their learning would be helpful. By being provided with specific training on the digital content the students were using, I would be better equipped to guide my students through their learning. This training would help me understand the curriculum better and learn how to fully implement the curriculum within the classroom. The second type of training I requested was training on how to help the students transfer the content they are learning digitally into the real world and onto paper outside of the digital platform.

Summary. Within this question, I shared that reaching out to other blended learning educators to gain a better understanding of how to address challenges in my classroom was important support that I needed. Additionally, I expressed my desire to provide the students in my classroom with one-to-one devices in order to enable a greater flexibility of grouping and learning within my classroom. Finally, I expressed an interest in acquiring more training on the specific digital content the students were using and how to fully implement it in the classroom, as well as how to help my students apply the knowledge they learned digitally to real world applications or to paper-and-pencil based assignments.

Question 7: Advice. The seventh question on the teacher questionnaire was "What advice would you give a teacher considering using the blended format to teach?" In the questionnaire, I gave several suggestions for teachers considering an implementation of blended learning in their own classrooms. I included suggestions around classroom setup and material management, routines, teaching, and managing groups.

Classroom setup and material management. In the area of classroom setup and material management, I gave suggestions in the areas of logistics, creating a Blended Learning Notebook, and a login information card.

Logistics.

> Be sure to think through the logistics of what your classroom will look like as students are participating in blended learning. Have a designated place for the computers, headphones, student binders/work, etc. Also, consider how you will charge the devices if they are not always plugged in.

Blended learning notebook.

> Ask each student to bring in a 1" 3-ring binder to keep all of their blended learning papers in. [This will be each student's Blended Learning Notebook.] Also, ask them to bring in a set of 5-tab dividers. With these dividers, the students can keep themselves organized while they are working. If students are unable to bring in the binders, you can provide them for them and if they cannot bring in dividers, brightly colored cardstock pages with an attached tab can work, too.

Login Information card.

> Consider creating a [login information] card out of cardstock for the students to put in their Blended Learning Notebooks. You can then put all of the login information for every software/program the students will be using on this card. This will save you the headache of students saying "I don't remember my password" and "where did I put my card with my login information?" It will also save you time in that you won't have to pass out individual cards for each and every software/program the students need to log in to. They will simply be all together in one place. I would recommend placing this card as the first [page] in their Blended Learning Notebooks, so they will always be able to find it. [Also,] have it be a bright color that will stick out in the case that it does get mixed in or removed from the binder.

Routines. Setting up routines in the classroom for students to follow was another piece of advice I shared. I recommended developing routines for the follow areas:

> how [students] move from one station to the next, how they get their materials, how to set up devices and put them away, how to interact in stations, how to get help on content or with a device issue, what it looks like to work in an independent station/teacher station/game station/technology station, etc.

Teaching. I also shared some tips for the educator in blended learning classrooms. Many of these tips gave suggestions to the educator to continue to learn along with the students and to be flexible in how they structure their learning environments.

You do not have to know everything.

> Do not feel like you have to know everything about BL [blended learning] to get started. Learn with your students. When you first begin blended learning, you will probably feel very clumsy and inept. This is okay. As you run more stations and as the students learn the routines, it will get easier. Somedays you will feel like the class period was a flop. On those days, think about what went wrong and try something different the next day. Don't give up on it. It does take time to get everything into place.

Stay out of the rotations at first.

> When you first begin, do not have yourself in one of the stations. By pulling yourself out of the rotation, you will be free to move around the room and help the students login to the computers, problem solve issues on the devices, figure out how to do their written work, or even just how to work independently. After the students figure all of this out, then put yourself back into a station.

Two to three minutes of independent work.

> When you are teaching a station, plan activities that allow the students in your group to work independently for a minute or two every once in a while. Take this time to walk around the room, to answer questions, and to help students get back on task.

Teach a whole group lesson.

> Realize that you don't have to always have the students in their rotations. It is okay to still teach a lesson to the whole group if it is a lesson that all of the students need to hear.

Managing groups. When managing the actual rotation of the groups during a Station Rotation blended learning model implementation, another word of advice is to use a timer to aid in knowing when it is time to switch groups. "It is very easy to lose track of time when working in stations. By setting a timer, it will allow all of your

groups the same amount of time to access each of the stations." I did offer a word of caution to be sure that the timer is accurately set. I explained what can happen if the timer is mistakenly set incorrectly:

> If you misfigure the time for each rotation, you may not end up with enough time to actually complete all of your stations, and your longer stations may begin to cause behavior problems because the students are in the stations longer than usual. You may also have to have the stations flow into the next day to assure that all of the students get an equal amount of time to complete the assignments. This is a lovely lesson that I had the privilege to learn firsthand!

Summary. I shared several suggestions around the implementation of a Station Rotation blended learning model in the classroom. I addressed the areas of classroom setup and material management, routines, teaching, and managing groups. While addressing each of these areas, I provided tips to help give insight about how to manage some of the challenges that can present themselves as a classroom begins its implementation of a blended learning model.

Question 8: Anything else. The final question on the teacher questionnaire was "Is there anything else you would like to share about your implementation of blended learning in your classroom?" I mentioned that blended learning is a great tool, it promotes independent learners, and that it is not always easy.

Great tool. In this study I shared that blended learning is a great tool to use when helping students develop 21st century skills. I pointed out that through blended learning students are able to develop these skills "in a safe, low risk environment." In addition to teaching the students 21st century skills, blended learning also enables students to acquire the "skills they will need to take the online state assessments" and "to be successful as they leave [my] classroom and go on to other classes that will expect them to know how to use technology."

Independent learners. Another benefit that comes from blended learning is that the children have the opportunity to learn through digital content. By engaging in digital content students "learn how to take control of their learning and … become independent learners. It is an opportunity for students to learn how to stay focused and to manage themselves." I did point out that " while it has not always been easy for [the students], they are doing well and are learning how to step up to the higher expectations that blended learning sets for them."

Not always easy. Finally, I shared that the implementation of a blended learning model within a classroom was not always easy for me. I explained:

> As a teacher, it has not always been easy. There have been days in which I have wondered if BL [blended learning] is really worth all the reteaching of routines, all the redirecting, and all the repetitions of directions. It is now, as I look back over the beginning months of school that I can see just how far my students and I have come, and I know that it has been worth every bit of effort that was made.

Summary. For the final question on the teacher questionnaire, I pointed out that even though blended learning is not always easy to implement, it is definitely a valuable tool. This model teaches children to be independent learners. It also prepares them for future technology based expectations in other classrooms, as well as state-mandated assessments that are given using an online format. Along with these benefits, blended learning also teaches students the 21st Century Skills that are now a needed part of their education.

Teacher/Researcher Journal

The teacher/researcher journal provided an insight to the thoughts and processes that went into implementing a Station Rotation blended learning model within the third grade classroom, as well as some of the occurrences that transpired as a result of those

considerations. Specifically, the journal addressed the areas of how to manage the learning materials and time, technology within the classroom, routines, classroom management, instructional considerations, learning that did or did not occur in the classroom, and unusual interruptions that occurred during the rotation model.

Managing learning materials and time. The managing of learning materials and time was one component that was addressed in the teacher/researcher journals. In the journals, the timing of the stations, presenting the content, student progress, and providing a consistent rotation order were all mentioned.

Timing of stations. As I reflected in the journal entries, I commented several times about the importance of timing the stations accurately. Through my comments, I explained that when a timing mistake is made, the teacher must adjust the learning the following day to make up for the missed time from the day before in order to assure that all of the students will have equal access to each of the stations. The following shares my thinking around this component:

> I was excited that we were starting [blended learning] so quickly today after transitioning from [targeted instruction], and I decided that I would go ahead and figure out the amount of time to run each station for. We had about 1 hour and 15 minutes left of math. I thought, great! One hour would divide into 20 minute blocks. Then, I would add the 15 minutes to get 35 minutes. What I didn't realize until the end of the block was that I divided the time incorrectly and should have really had the kiddos in their groups for only 20 minutes. But of course I didn't realize this until the end of the math block when we had just rotated into our 3rd rotation, and I looked at the clock and realized it was time for writing. I couldn't believe my mistake! I assured my class that we would begin working right at that station tomorrow.
>
> [The Next Day] Due to the fact that I messed up the timing of the stations yesterday, we started with one 35 minute station, followed by three 11 minute stations. This allowed all of the students to finish up what [they] started yesterday and also allowed them to get a start on today's work. In addition to this, it provided the students with four opportunities to practice being in stations and moving to new stations.

I also commented on the timing around cleaning up after the stations were completed. I mentioned that the class was losing a couple of minutes each time they transitioned to a new station simply due to cleaning up. These few minutes began to add up, and the overall station rotations started to run into the next subject's time. This in turn would then cause some students to run late for their next class. I worked through the problem by making sure that I began the timer for the next station right after the previous timer had gone off. This pushed the cleanup and transition time into the following station's time. By doing this, the students would hurry to get cleaned up and transitioned so as to not lose too much time in their next station.

Another piece of the timing was related to how many rotations I was able to fit into a class period while still making them worth the students' time. During the targeted instruction block, the students were only in the class for 40 minutes. Due to this limited time period, I still opted for a three station rotation as I did in math. The main difference, however, was that I only had the students do two of the three rotations each day and just wrapped the third rotation to the following day. On the Promethean board, I still only displayed which stations the students went to for that day, and the activities for that day. I was still working through that process at the time of the data collection. This was evidenced by the following comment: "Right now, I am only displaying one day's rotation at a time, but it sure takes some brain power each day to update this. The order is not yet in my brain."

Presentation of content. Another aspect that was addressed in the teacher/researcher journal was how to present the content to the students. One of the considerations I made was around how to present assessments to the students. I was very

aware of the types of questions I needed to provide to my students. I worked to find ways to present the questions to the students, so they could get a wide range of exposure before their state testing. In the journal, I stated, "I am considering other ways now to present the vocabulary quiz within the Schoology platform to give them more chances to see different types of test questions."

Another piece of the presentation of content was around the day-to-day work. I had found that by using technology I was able to supplement a lack of resources in the classroom. An example of this was seen during a portion of my reading period when I needed my students to read a story from a leveled reader. Unfortunately, I did not have enough books for all of my students. So, instead of asking the students to share the books, I was able to have them access the books online, and they were able to complete their assignment. I did make an interesting observation that day about how comfortable the students were with accessing technology. I wrote:

> It was interesting to observe how many kiddos are comfortable getting onto Wonders and how many are not. I am noticing that my homeroom kiddos in general seem more comfortable, and I think that is due to the way I have taught them to use the devices and the amount we use the devices.

Student progress. Another portion of the teacher/researcher journal was written around ways to monitor student progress. I wrote about visuals that assisted the students and I in seeing the progress made in class. I also wrote about an opportunity for students to learn outside of the classroom and a bit about the curriculum.

Visual. The first area was the visual representation that displayed the progress children were making in the classroom. I needed a way to visually keep track of where the students were in the curriculum outside of the digital reports that were being provided. I explained how I designed the visual (See Appendix K).

> We are starting a new unit in math. I have set up a visual for my students, so we can all see where students are in Zearn. I have a graph that I made on a closet door. I taped horizontal lines with painters tape and labeled them with the numbers of the lessons. The students each have a small, round smiley face that they can move to show where they are. I first set it up with the end of the mission data from our previous mission. It was very easy to see the students who are falling behind and those who are ahead. It was fun to put a lot of kiddos at the very top this time.
>
> One thing I didn't think about when taping off the grid was that at the beginning everyone needs to be below the Mission 1 mark. I guess I will just have them stay at the top until they have finished one. I think I should have also given the first couple of lessons more space. It is like the beginning of a race. Everyone starts together at that point, so it is very crowded right now.
>
> All in all, I think this will be a good way to help everyone visualize where they are. When the curriculum is all online, it is hard to see where everyone is without [logging] into the digital [curriculum].

This visual worked very well in my classroom, and it aided the students in seeing their progress towards completing the digital content even when the students were off of the computer.

More opportunities. In looking at the progress of my class, I decided that my students needed more time to work on the digital content. The other two third grade teachers in the building, who also utilized the same digital content, were seeing the same student progress in their classrooms. As a grade level, all three of the teachers decided to assign some digital homework to aid the students in being able to complete their digital content in the correct amount of time. As we began the digital homework, we quickly found out that some of the students had minimal access to online resources. As a result, the other third grade teachers and I developed what we called "Technology Tuesday." As we implemented this resource, however, we did discover that not all of the students who needed it took advantage of it. See Appendix Q for a more detailed description of Technology Tuesday.

Curriculum. Another consideration that was mentioned in the teacher/researcher journal was the idea of managing the curriculum the students were completing. I had to make the decision about whether I would allow students to simply complete the digital work at their own pace, or if I would manage the curriculum by only allowing students to continue working in the unit they were in as a class. With the limited number of devices and with the district assessments that must fall within a specific testing window, I decided to keep everyone on the same unit. The following explains a little more around my thoughts concerning this:

> We will begin a new mission [unit] tomorrow, so I will have to reset everyone who did not finish their work to the next mission without allowing them to finish their content. I really dislike not being able to give students the extra time they need to finish their lessons, but we have to keep moving along at the pace the district has dictated, so there is really no option at this point. I wonder when we have more devices if we will be able to differentiate this a bit more. I can only imagine the management it will take on my part to keep track of students working in a variety of missions. Right now, it is enough work to just keep everyone within one mission and on one basic concept.

Consistent rotation order. Another piece that I pointed out that may not always be at the forefront of one's thoughts during the implementation of a Station Rotation model was the idea of consistently rotating stations in the same direction within the classroom regardless the subject. I had tried to rotate the room in one direction for math and in the opposite direction for targeted instruction. In doing so, I just confused my students and myself. After trying to get this to work for a period of time, I decided to switch the targeted instruction rotation to match that of the math rotation. This small switch clarified much of the confusion that had taken place within the targeted instruction block.

Technology within the classroom. Another topic that I mentioned in the teacher/researcher journal was the actual use of the technology in the classroom. I voiced the desire to have more computers in my classroom on a regular basis. I also spoke to the need for explicit teaching around the basics of using the technology.

More computers. As I was working with my students and the digital content in my classroom, I found the need for more devices within the classroom. I shared, "Oh, how I wish for 1:1 [one student to one computer] devices at times. It would sure alleviate the dance that we have to do around not having enough computers. I am, however, at almost a 2:1 [two students to one device] during my [targeted instruction] time, so that is nice." While I ended on a positive note, the message that having more devices would simplify blended learning was very clear.

Explicit teaching. Another revelation that I expressed in the teacher/researcher journal was that it was important to continually teach the basic computer skills to the students in an explicit manner. A couple of different times, I voiced that I was surprised that the students did not understand the concept of clicking on a link to access some of the digital content. This was a concept that I had taken for granted since the students had already been asked to do something like that on a previous assignment. I also explained how once they had clicked the link, they then had to figure out how to manipulate the website they reached. The learning curve was very high for the students. I found a similar struggle when I asked them to access digital books during one of my reading classes. I explained the struggle this way:

> When the students got in, some of them could get to the books fairly easily, but several could not, so I went ahead and assigned both levels to them and then they could easily access them. I did have one girl ask me how to get the book to read to her. This question surprised me a bit because I have modeled this in class

> several times and most of my kiddos have learned how to do this just by watching me. This is a reminder to me that I need to teach every little step explicitly for those individuals who need more direct instruction when it comes to computers.

Routines. In the teacher/researcher journal, I listed out two main routines that I was working on with the students. One routine was about getting materials out appropriately. The second routine was about moving stations in a quick, quiet manner.

Getting materials. During the game station, the students were responsible for getting out the materials to play the game. I found that this worked well until I began introducing a couple of game options into the station. At that point, the calm, organized way the students had been getting out their materials ended. The students began fighting over who got to play the new game. In my journal entry, I voiced my concern over this:

> One routine that I have learned that I need to have in place is how to allow kiddos to play a new game if I am not replacing the entire station with the game. I have done this a couple of times now. For instance, during the Mickey Mouse Multiplication Math Station, I added a multiplication chart race for the kiddos. They loved it so much they would argue over who got to do it, and then would pull on the materials so badly, I was afraid they would tear them up. There were also less aggressive kiddos who never had a chance to play simply because they were too polite to fight for the game, so they missed out.

To solve the problem, I divided the students within the station into different groups. Each of the different groups had an opportunity to play the new game on a different day of the week. This small change enabled all of the students to play the game and alleviated the fighting.

Moving stations. Moving stations in a quick and quiet manner was a struggle I addressed several times in the teacher/researcher journal. I frequently mentioned how I had to remind the students to move quietly, to get their materials, and to move quickly. At one point I stated, “We lose too much time waiting for students to get ready to start

their stations." In addition to the timing, I commented on the noise level that came with rotating stations.

> A challenge I am still seeing is moving students from one station to the next in a quiet fashion. The students get very loud as they get up from one station and get ready to move from one station to the next. Last year, I was able to get the kiddos to quickly stand up without talking, gather their materials, and move from one station to the next in a very short amount of time. I have been trying to give the students one minute to transition, and they [do] pretty well with this, but they are still extremely noisy. I need to see what incentive I [can use] to get them to move quieter. Perhaps, I should bring them back and reteach what it looks and sounds like. I dislike having to take the time away from their learning, but I think it may be worth the time in the long run, as then we can move quicker and be back on task easier.

At a different point, I mentioned that I did reteach the procedures to the students, and I spoke about the practice it took for the students to successfully move quietly.

> I am planning on going over the procedures for moving from one station to the next. As we got ready to start stations, I explained to the students that when it was time to begin, we would all stand up together, gather our materials, and move quietly to our first station. We had to practice this a couple of times due to people talking or hopping around. Once we got in the first station, I would specifically tell students when they were too loud or off task. This pulled them into a very calm working mode.
>
> As we moved into the second station, we had to go back and try again due to the noise level. Even before we moved, however, I gave specific directions like: People on the computers—log out, but leave the login screen up. Then, stand up and gather your materials. People playing games—clean off your boards and very neatly put your game pieces away, then stand by your chair, gather your materials, and wait. Blue book people—all you do is close your books, stand up, push your chair in, and wait without talking. Then, we all moved together. If it was too noisy or if someone was running, we would go back and try again. This direct step-by-step process was very helpful. The students didn't have to think about what all the procedures were because I gave them to the students each step along the way. I have a feeling that I am going to have to do this for a while, as the group had become very lax about following these routines.
>
> At the end, I was just as explicit about how to clean up the room after we were in stations as I was when we were working in the stations. It was a much more effective cleanup time than the previous day.

During my targeted instruction group, I found that there was a distinct difference in the understanding of what the Station Rotation model looked like in comparison to my

math group. This was interesting to me to observe because it reminded me of when I first began blended learning with my math group. The group of students in my targeted instruction group was still reasonably new to blended learning, so it gave me a fresh insight to what it was like to begin a blended learning group again.

> We still need explicit reminders on how to get materials gathered and to move quietly. I can tell we are still new at this. All of these routines are not quite routines, yet. It is interesting to see the difference between the math class and the [targeted instruction] class. It does show that after time, these rotations become second nature to the students. That is not saying, however, that the students don't need to be reset every once in a while and reminded about what they should be doing while they are working and while they move. I still walk my math group through the reminders—blue books, you should close your book and stand up quietly; computer group, you should log off, but leave the login page up; game group, you should quickly and neatly put your materials away and then stand quietly. It still takes us a couple of minutes to clean up, to move, and to get settled. I am not sure how to get this transition time down to less time. I may have to make a game of it. So far, I have tried to give/take points, but at this point of the year (right before Christmas break) this is minimally effective.
>
> During transitions in [targeted instruction] today, we had to go back to our original station to practice moving quickly and quietly. I have found with this group of third graders that if I allow them to move into their new station in a rowdy way, it takes them a while to really settle in and get some work completed.

Classroom management. Classroom management was a large piece of what I discussed in the teacher/researcher journal. The emphasis in the journal was around maintaining a productive classroom while assuring the students were on task and working. Timing, resetting expectations as needed, and considering the content were ways that I helped in managing my classroom.

Timing. One way I was aided in managing my classroom was to use a timer. The timing of the stations was mentioned in an earlier section to help with the smooth rotation of the students. In this section, it emphasizes how the timing of the stations directs the movement of the students and how it helps keep behaviors in check by closely controlling the amount of time students are in each of the stations. I found that sometimes when time

was short due to not using a timer, I would overlook some of the less desirable mannerisms of the students simply because I did not want to take any more of their learning time. The following provides an example of this:

> As I go into this week, I am finding that there are still some systems that need to be relooked at. For example, as the kids were moving from the second to third station, those going from the game station to the blue book station just threw their materials into the box or some even left them on their tables or on the floor. I guess I should have stopped them right there and had them go back and fix everything. We are just so short on time, and I hadn't set the timer, so I know the timing wasn't quite right. I didn't want to waste any more time, but the students know better.

Resetting expectations. I also mentioned several times in the teacher/researcher journal that I had to redirect the group or individuals in order to assure they were working. In reviewing the daily progression of events that I shared in the teacher/researcher journal, I found that the rough days were typically followed by a regrouping and a tightening of the expectations. I reported that this progression of observing off task behaviors during one class period and then following it up with a resetting of the expectations on the following day was effective in helping the students focus and learn. To read more about the off task behaviors viewed in the classroom, turn to Appendix O.

As I reset the classroom on the days following the off task behaviors, I clearly went through the expectations again with the students. I explained to them that the way they were behaving the previous day would not happen again. I then explained to the group that they would have to practice the routines if they did not demonstrate what was expected of them. I also told some of the students that they would not be able to work together due to the off task behavior that was demonstrated the previous day. These are the results following the redirection of the class:

> I revamped math today. After yesterday's chaos, it was time to reset the group. I clearly told the students that what happened yesterday would not happen again… For the most part, the students were on task. I had to give a few reminders to a couple of my louder spoken students about their voice levels especially when they were in the game station. They weren't off task; they were just a little over excited about their game.

Considering the content. Within the teacher/researcher journal, I also reflected on the actual content that was being presented in the stations through the lens of helping with classroom management. I commented that perhaps I needed to adjust the level of the work, so the students would be more successful and be able to work more independently. This consideration was prompted by the following statement: "I could also tell that the content in the independent blue books was harder than usual because I had many students who were avoiding the work by messing around. Another time I made a similar comment about my targeted instruction group:

> Even with this small group, however, I still had to move some kiddos because they just kept talking and were not getting their work done. I am still trying to find the motivating factor to help them be better independent workers and to not just use the time as a social time. I wonder if I need to lower the level of the work for a while, so they will be more motivated to work since they will be more successful and will know how to answer the questions better.

Instructional considerations. There are a great number of instructional considerations that need to be made when implementing a Station Rotation blended learning model within the classroom. I identified seven different areas when I was reflecting in the teacher/researcher journal: motivating the students, supporting digital work, whole class lessons, challenges with only having a few devices in the classroom, finding a balance of digital and paper/pencil work, Station Rotation considerations, and the awareness that teachers are still needed within the classroom.

Motivation. One of the instructional considerations that I mentioned was around the area of trying to challenge students to be intrinsically motivated to learn and to be successful. A frustration that I voiced was that the students were not motivated to learn. I was continually trying to find the right "carrot" to dangle in front of the students to encourage them to be independent learners and to take the initiative they needed to be successful. I mentioned that I could try taking away privileges, but I voiced that I would rather have the students just step up to the challenge. I also tried having certain individuals sit away from their peers to help them focus, which did work for some students. The idea of providing the students with some sort of tangible reward that they could earn over a period of days as a result of their positive work efforts was yet another idea I was contemplating.

Supporting digital work. Another consideration that I worked on was how to support the digital work of my students. The students who were new to blended learning needed a good deal of support to be successful. I was finding that while the students were able to access the digital content online, they were not exactly sure what to do with that content when they got to it or how to apply what they were learning outside of the digital world. One example I gave was of my targeted instruction students. The lesson the students were learning was how to write a friendly letter. The students did a fine job of accessing the digital content, but when it came to writing a friendly letter on their own, they were not remembering the pieces they needed to include. At this point, I reflected on the lesson and felt that making some sort of note catcher for the students would have helped them retain the information they were learning.

I gave another example of an assignment in which the students had to research an animal and then create a presentation about it. I was surprised by the way the students interacted with the lesson:

> We are doing a little blended learning in my targeted instruction class. The students have to do some research on an animal that is in the book study we are doing. Today was the first day that we began this task. I was a bit surprised at how the students didn't seem to understand the task at hand. In the directions, it told them to research an animal in our book. I was getting questions like, "Do I have to pick an animal?" The students seemed rather comfortable getting into Schoology to access the assignment, but once they got in they seemed to struggle as to what to actually do. The directions, rubric, and a link are given in the assignment.
>
> Since I had so many students struggling, I paused everyone's work for a moment to teach a minute mini lesson—my students are really beginning to like these!—on how to do the assignment. I brought it up on the Promethean Board and walked the whole class through it. As the kiddos went back to work, they seemed more confident getting in and accessing the web page. Some of them are still unsure about how to work through the articles to actually find the information, so I may have to work more one-on-one with them on this part.

This mini lesson led to the next consideration I made: Whole Class Lessons.

Whole class lessons. Through examples like those in the past section, I was reminded that when implementing a Station Rotation blended learning model within the classroom, I still have the opportunity to teach the entire class at one time if it is the best instructional method to help the students learn the content. I explained it this way:

> Today was a reminder to me that when doing blended learning, you don't have to actually do a Station Rotation every day. Sometimes, there needs to be direct instruction at a whole class level, so you can clarify a concept or teach content [to the] whole group before releasing the students to the devices. In [targeted instruction], we stayed together to do a spelling test and then did some vocabulary work as a whole class. This opportunity gave my class the chance to build some common information together. The other day during math I brought everyone together for a math for a mini math minute where I introduced, or reiterated, a concept that I was seeing the kiddos ask over and over. This was good. I had the students' attention because it took them from their rotations for about a total of 2-3 minutes. I was able to quickly introduce a concept that I have been reminding the students of every day since the mini lesson.

I found that when there were class periods in which the students were all asking the same questions, it was well worth the time to pause the station for a moment and to address the question as a whole group lesson. After the mini-lesson, if a student would ask me the same question again, I could refer the child to the mini-lesson I just gave and then support the child as needed. I even contemplated printing the mini-lesson off of the Promethean Board, so I could post it in the room for future reference.

A final thought on the whole class lesson is that the lesson does not necessarily need to be at the beginning of the class period or even during the station rotations during the class period. I found that touching base with the students at the end of the class to go over the day's work was also an effective use of whole group time.

Challenges with few devices. Implementing blended learning in a classroom with few digital devices created interesting instructional considerations for me, as well. One of these considerations was how to help students keep up with the required pacing when their time on the computers was limited due to a lack of devices. In math class, the grade level teachers and I began assigning digital homework twice a week for the students to help them stay caught up with the pacing. The teachers and I also provided access to technology at school one afternoon a week to allow students who did not have technology access at home an opportunity to complete their digital homework at school and to get support from the teachers in completing their homework.

The challenge of limited devices also presented itself in my targeted instruction class. I initially tried a variation of a Flex Model of blended learning in which the students would flex into the digital component of their assignments as they were ready. Within each unit, I would include some paper/pencil activities and a digital assignment. I

found that students really enjoyed the technology components of the blended learning rotation. With this, they would rush through their written assignments to get on the computers. This caused difficulties because there were not enough devices to support the number of students who needed to use them, and I was left trying to figure out what to have the students work on while they waited for a device to be available. As I processed through this dilemma, the following section of finding a balance between the digital and paper/pencil work emerged.

Balance of digital and paper/pencil work. The balance of digital and paper/pencil work challenged me to find a way to allow all students to experience learning in a digital format while still having the rest of the waiting students actively engaged with their learning. As I watched my class, I found that the Flex Model that was mentioned in the previous section was not an effective model for my group due to the lack of technology. I then processed through a way to create digital lessons that were broader and encompassed a larger theme related to multiple smaller units. With this, I returned to the traditional Station Rotation model and allowed the students to rotate through the three stations. This provided equal access to the technology for all of the students and allowed them to continue learning even when they were not on an electronic device.

Station rotation considerations. As I introduced blended learning to my targeted instruction group, I found that I felt like a brand new blended learning teacher. Even though I had been doing blended learning with my math groups for a couple of years, when I introduced it to my targeted instruction group, "it felt very clumsy." There were many instructional considerations that needed to be made in order to make the

implementation of the Station Rotation blended learning model in my classroom an effective one.

I had distinct ideas about what I wanted to include in my targeted instruction class, and I had to process through what those ideas would look like in a blended classroom. In the teacher/researcher journal, I shared how the beginning of the Station Rotation model in my targeted instruction class demonstrated to me that we needed to do a lot of work around working in a blended learning environment. I also shared questions that I was considering while implementing this model and the logistics of what each station would look like. See Appendix P for a complete account of the reflections and questions I had as I began the Station Rotation model with my targeted instruction group.

Another consideration I had to make around the Station Rotation model was how to make it better differentiated for my students. I had originally set up the rotations in a way that allowed me the flexibility to work the room and support the students. In the teacher/researcher journal, I explained what my thinking was behind that and how I wanted to move forward:

> I am glad that I have worked my way out of a station for a while, so I can support students as they become independent learners in this model; it is such a huge leap for some of our kiddos. In thinking about the future, I would like to find a way in which I could teach a group for maybe one of the stations each day. I would need to think about how that would look. Perhaps I could add a fourth station that I could use to pull students with the same ability or same needs to in order to give some direct teaching without having to be in a station all the time. I would have to be sure that the other groups' activities are structured in a way that they could independently work through the activities. The idea behind blended learning is that we can provide differentiated learning in the classroom. As I have begun blended learning with this group, it is very much homogenous learning at this point. After our Christmas break, I will need to look at restructuring this a bit to start meeting more specific needs in the group.

Teachers are still needed. Within the blended learning world, teachers are still a much needed piece of the instruction. As I was working with a student, I was reminded of the need for a teacher to look at what the students are doing and at how they can be supported. The following is a small excerpt from some of my thinking around this:

> Today I had to really talk with one of my girls in targeted instruction about not just making up answers to the questions in the independent group. She was just thinking about the questions and coming up with her own answer without looking back in the story. She was providing no text evidence. In order for her to get the question answered, I had to talk her through the thinking in how to process the question and answer. In stepping back from this, I am reminded how much the students still need to be taught while we are doing Station Rotation and blended learning models in the classroom. Just bringing in the technology piece does not remove the teacher's job in the room.

This same consideration could also be noted when I noticed that my students were doing a good job answering questions on paper, but not so well on the computer. The students were answering the questions well and were providing the text evidence that was needed. I noticed, however, that when the students took a similar test in a digital format, they did not perform as well. I brought this to the attention of my class and began to provide more opportunities for my students to respond in a digital manner. In this way, they could be more successful. The observation of the discrepancy between the paper/pencil work and the digital work reiterates the importance of having a teacher remain alongside the technology in a classroom.

A third example of this could be seen in my targeted instruction class when I asked my students to do some research. The students in the class needed some support in learning how to do the actual research. A computer could not teach the students how to use it; it requires a teacher to instruct the students in how to access the information and in how to use it. I explained a small piece of the process this way:

> I did learn that third graders need a lot of support with research. My process for them has morphed over the past couple of weeks to provide more support with this. At first, I was just asking them to search on Google Kids. This did not work so well. Then, I tried having them use some links on our librarian's class page that are designed for research; this was a little better, but the students still struggled. Finally, I did some research and found two articles and three websites that had good information. I put links to these into Schoology, so the students could just login and have access to five good resources. This went better, but then the students had to learn how to take notes. I did a "Mini minute lesson" with the students, so they would know how to divide their paper into different sections each labeled with what information they needed to locate. This was very helpful.

Learning observed or not observed. As I was reflecting in the teacher/researcher journal, I contemplated the ways I saw students learning and evidence of where they had not yet learned the lessons being taught. I pointed these things out to give awareness to processes that were working well in the class and to those that needed a bit more support. By doing so, I gained a better understanding of what routines and strategies were working well and where there was need for improvement.

Learning observed. The largest area of learning that I saw in my students was them becoming independent learners who were beginning to take charge of their learning. I gave a few examples in the teacher/researcher journal entries where students were demonstrating this learning. One journal entry spoke about a boy who typically struggled to get his work done, but one day he started to show a glimpse of responsibility toward owning his work:

> I was so proud of one of my students today. I normally provide him an accommodation of using the computer for two sessions since he takes longer than the other students to complete his lessons. He just doesn't go to the game station. I didn't even think of this today as I was moving the groups to their next station. He piped up and asked me if he should log off or stay on the computer to do another round of work on the computer. I am proud of him because this shows me he is beginning to take a little self-initiative in his learning. It is a small step, but at least he is starting to monitor his work a little and has begun to internalize the routine.

Another example was of the students getting excited about working ahead on the Zearn lessons and then excitedly sharing with me how they were doing. Along with this, I also shared how the students were planning out their lessons and were making goals for themselves, so they could successfully complete their units.

> By asking the students to complete at least two lessons at home each week, they have been able to catch up. In fact, several of my students are even multiple lessons ahead and are very proud of the fact. I have one little boy who announces to me each morning and at math time what lesson he is on and how many more lessons he has to go to be done with the mission we are on. He is so proud of himself.
>
> I also see kiddos taking ownership in their learning in that they are asking for multiple lessons to bring home each night. They are figuring out how many lessons they have to complete to be on track or to be ahead. I also use the bar graph in the Zearn software to show the students how many of them are reaching the four lessons a week goal. On the bar graph, it shows me exactly which kiddos have completed 4+ lessons (green), 2-3 lessons (yellow), and 0-1 (red) lessons. I can hear kiddos talking about how they are determined to move from the yellow to the green sections on the graph and will even ask me to show them who is in the green to see if they worked hard enough to move up to the next section on the graph. This ownership of their learning is super exciting to see because it is an indicator that they are beginning to develop intrinsic motivation to do well with their studies; something I have rarely seen in third graders before.

A third area of learning that I observed was seen in the number of students completing the digital assignments before the assessment deadline. At the start of the year, on the first mission (unit), I did not have any students complete all of their lessons. By the end of the third mission, I had 19 students finishing the entire mission before they took the test, and a few other students who were close to completing all of the digital content. I shared that, "Several of the students had told [me] how much easier it was to understand the material and to do the work when they were on track. This awareness on their part [would] aid them in continuing to work towards keeping up."

Learning not observed. In addition to mentioning areas that the students were demonstrating learning, I also mentioned areas in which the students were still struggling

and where they needed more support. One example of this was that there were students who were falling behind and who were struggling to complete assignments even though they were able to complete the activities if I was standing right beside them. The following except shares that concern:

> I am concerned for a couple of my students, though. They are just falling farther behind, and they don't seem concerned by this. I am not sure how to provide them with more support. I don't know if a phone call home would be the best bet or if it would even help.
>
> I am still not sure what to do with my kiddos who are falling behind… One boy in particular is worrying me. I think his home life has affected him so strongly that he is barely able to function here at school. He is intelligent, but he seems to not be able to self-motivate to complete any work. I know he does struggle with many of the concepts that are presented to him, but even the common sense things he isn't getting. For instance, on one of his assignments he had to fill in the multiples of nine. 1x9, 2x9, etc. When I went up to him, he had already filled in the first couple problems, but then was raising his hand to know what to do next. I told him he was counting by 9's, and then read the next problem to him. He then continued to work. I am puzzled by his lack of ability to continue a task that he had already started. Due to this sort of behavior, he didn't even finish quite half of the curriculum.

Another area I reported that the students were struggling with was using paper and pencil to help them complete their digital assignments. I found that when the students worked out the problems presented to them on the computer using a paper/pencil format, they were much more successful. This was commented upon in the teacher/researcher journal:

> Something we are definitely working on as a group is understanding that even though the math assignment is completed on the computer, it is definitely okay to work out your thinking on paper. Several times, students will indicate that they are stuck, and when I ask to see their work, they have nothing. As soon as they get their paper out and work the problem out, they understand.

Another task, related to the paper/pencil work, was accurately recording their digital work onto their paper notes. Some of the students began half-heartedly completing the notes by just writing down whatever they desired instead of the actual

information that was being presented in the digital content. This reminded me of the importance of having a teacher in the classroom to guide the students as they worked through digital content.

In addition to these areas, I also found that sometimes the students were not applying what was being taught or what was in the assignments' directions. I gave this example:

> After my mini lesson [on how to label their papers with the correct headings to be researched], I [still] had kiddos asking me "what do I put for the headings for each section?" … I replied 'read the assignment's directions to me.' With reluctance they read them to me and realized the headings were right in the directions. It is interesting that I have given them the [written] directions both on paper and digitally, but they seem to avoid reading the very thing that will help them understand what they need to do.

This struggle was similar to what I saw in the students when they were asked to answer prompts that required them to go back into the text and find the correct answers. The students really struggled when they were expected to look back at a piece of text to pull out information whether it be to answer a prompt or to just pull the details out of a set of directions.

Unusual interruptions. Throughout the teacher/researcher journal, I commented on different occurrences that occurred within my blended learning block that were typically out of the everyday ordinary occurrences. Within my classroom, I demonstrated that even with the different occurrences happening, I was still able to conduct my station rotations for the day. A couple of the occurrences I commented on were related to the holidays and to disciplinary issues.

Holidays. The holiday occurrence caused me to have to deal with several of my students being gone during one of my class periods. The fewer number of students was a

direct result of a choir concert that would occur later that day. There were a number of students in my class who had to go to a choir rehearsal, so they were not able to attend class, and in turn, I was left with a much reduced number of students in my class. Despite the fewer students, I was still able to run the Station Rotation model within my class. Additionally, I did not have to greatly change what I originally planned for my class. Due to the way the stations were set up, the students who missed the class period would be able to pick up where they left off on the following day.

Discipline. The other occurrence in the classroom was a direct result of a disciplinary issue that the assistant principal was dealing with. I told the story this way:

> During stations today, I noticed that one of my kiddos had not returned from his [targeted instruction] class. When I inquired about him, another student said he was talking to another teacher. This has happened before, so I didn't think anything of it. Then, however, my Assistant Principal came in and asked to borrow one of my boys. I sent this boy with her. A short time later, she came back for another boy, and then another. This kept happening. I was trying to keep my group as focused as possible, but each time she came back in, my group would be just a bit more off task. In all honesty, it began to just be funny. She was apologetic for having to interrupt the class so many times, and I understood. By the time she was done, five boys remained away from my class.

Despite the frequent interruptions, I was able to continue the Station Rotation model. I did have to try to focus the group more often than usual, but I did not have to stop the learning altogether.

Observations

Another source of data was the classroom observations. During this study, six observations of the classroom were made. The data from all six observations were compiled and then coded. Through the coding, seven different focus areas emerged: examples of the activities completed by students during blended learning, classroom procedures, reminding students of the previous day's activities, preparing students for the

day's blended learning rotation, students' behaviors and actions during the station rotations, my actions as the teacher during the station rotations, and unexpected activities that I needed to address during the station rotations.

Examples of blended learning activities. One of the themes that emerged from the classroom observations was the variety of blended learning activities that can occur within a blended learning classroom. The various types of activities included digital assignments, paper/pencil activities, teacher directed activities, collaborative activities, and independent activities.

Digital assignments. Digital assignments were on of the types of blended learning activities that were present in my classroom. One example of the digital assignments was researching a topic using the Internet. This research, once completed, would then be used to complete a report about that topic. At other times, the students used software to create a presentation. Another type of activity, and the one that was the most prevalent, was the utilization of digital content to aid in learning actual content. In the observations that were made during this study, the digital content Zearn was utilized to teach the math standards to the students.

Paper/pencil activities. Another example of the type of activities that were completed during the Station Rotation model were paper/pencil activities. During these observations, some students were asked to create a poster based off of some of the research they did while they were working digitally. Other students were completing math practice pages out of a workbook or completing a packet that showed their understanding of some text they had read.

Teacher directed activities. While there are many teacher directed activities that could occur, during these observations, the students participated in a Socratic Seminar. Through this means, I guided the students to discuss a story that they had previously read with predetermined questions developed to encourage rich discussion between the students. As the students were answering the questions, I required that they provide text evidence from the story to support their answers.

Collaborative activities. The students were also observed participating in collaborative activities during the station rotations. During this study, the collaborative activities presented themselves in a couple of different formats. One format was in the form of using dictionaries for some vocabulary work in which the students could confer with their friends to successfully utilize the dictionaries. Another activity was in the form of games that the students played with their peers. The purpose of the games was to help the students practice the content they were learning during their math block in an engaging manner that encouraged interaction with their peers.

Independent activities. In addition to these previous types of activities, some of the students were asked to participate in independent activities in which they worked on an activity by themselves. During the observations, the main independent activity that was reported, as was mentioned in the paper/pencil section, was the students completing a written packet about a portion of literature they had read. Other times, the students would read a book and then were asked to complete an activity related to the book different than that of the written packet. Of the different types of activities completed, independent activities occurred with the least frequency.

Summary. These five types of activities which included digital assignments, paper/pencil activities, teacher directed activities, collaborative activities, and independent activities spoke to the wide variety of tasks that the students completed during the Station Rotation model. During the observations, students were observed being both independent and collaborative workers. They were also seen assisting their peers during the station work time, as well as being guided by me.

Classroom routines. Another focus area that was revealed during the observations was around the area of classroom routines. Throughout the observations, many classroom routines were observed helping students know how to move within the classroom, and how to go about their work. The areas the routines addressed were: student movement, getting materials, general working expectations, how to get help, what student work should look like, how to resolve conflicts, and what the stations logistics entailed.

Student movement. When students were asked to move from one station to the next during the Station Rotation model, there were several procedures that guided them in their movements. Most of the time, the students knew exactly where they were going and how to get there. During one observation, however, a student got kind of lost and ended up across the room from where he should have been without his materials. I asked the student, "[Student], where should you be? Where's your stuff?"
He walked across the room to get his stuff with a sheepish grin on his face. "I got mixed up!" Some of his peers chuckled. In observing it was an honest mistake.

To minimize chaos and mistakes like this from happening frequently during the rotations, I had in place several expectations that the students followed. One expectation

that was followed by the students was that they should begin their movement in a quiet manner and follow this through all the way until they had moved to their new station. I gave the students reminders to prepare them for a calm and quiet movement. I said statements like, "Let me see my friends that know what they're doing. They should be standing by their desks or by their computers; they've gathered up all the materials; they are not talking to their friend." These reminders were then followed by a "Quickly and quietly [move], please." There was a great emphasis on the students moving quietly from one location to the next. If the students struggled with this, I would remind the students and have them practice the quiet movement. At one point I redirected the group and an individual by saying, "Please stand up where you are. Let's see if we can do this. [Student] please have a seat; now show me how you stand up without making lots of noise." At times, I broke the expectations down into step-by-step instructions to ensure the students were successful.

Getting materials. Another classroom routine that was in place within the third grade classroom addressed the need to get materials. At times, I was the keeper of the materials, and the children were expected to politely ask for them. An example of this was seen when a student needed a new pencil because his was dull. He would politely ask for a new one and would trade his old one in for a sharpened one. I was also asked to get extra markers if there were not enough in the game box or if one of the markers was dried up. To aid in making sure the students completed their work in one of the game stations, I had the students complete the game and then ask for a grading key to use to check their work. In this way, I could assure that the students were actually working to learn the material and were not just copying the answers.

There were other areas, however, in which the students were responsible for getting and returning their own materials. This was seen in a targeted instruction class where the students were responsible for getting their own folders from a crate at the start of class and for returning them at the end. They were also asked to return borrowed pencils to a cup. This is similar to what was seen in the math class when the students had to get out their own Blended Learning Notebooks. Additionally during the math class, the students were responsible for getting out their workbooks and the game stations. At the end of class, the students demonstrated that they had been instructed how to carefully put away the game stations because everything was neatly tucked into a box and placed on a shelf. The students were also well versed in how to put the digital content away, and if they accidentally made a mistake in the routine, I would simply remind them of how to do it and let them try again. One example of this was when a student clicked on the restart button instead of the shutdown button when trying to put a computer away. I replied by saying "Oh, no! (With a smile) You'll have to wait and turn it off then." This, in turn, provided the student with another chance to try to do it correctly.

Working expectations. A third routine that was in place was about working expectations. One of these expectations was that the students would stay on task and work quietly in their stations. Multiple times during the observations, I was observed redirecting students to get back to work and to work quietly. I would ask the student, "Can you focus over here?" This helped the students begin to take ownership of their behavior by providing them with a chance to reflect on how they were working in the specific location in which they sat. Sometimes the students would also take

responsibility for their own learning by requesting that I speak with an individual student who was not working quietly and who was distracting them from their learning.

Getting help. While observing the class, another routine that became evident was around how the students could get help if they needed it during the station rotations. The students were able to get help from me, from other students, and sometimes from the Promethean Board.

Teacher. Many times throughout the stations, students were observed raising their hands and asking me questions about work they did not understand. An example of this was seen when a boy raised his hand to ask what the word "comfort" means. I gave him the example of a little boy who was running. The little boy fell down and scraped his knee. I then explained how the little boy's mom gave him a big hug and a Band-Aid; that was how she "comforted" him. I then connected this to the question about the story. The student seemed to understand, and through that one-on-one interaction was able to get back to work.

Students. Another place students were able to get support was through their peers. The students were redirected by me at times to ask their peers their questions before I would respond to them. I was very clear, however, that when the students were helping each other, they were not to do the work for the other students, but rather to just help the other students understand how to complete the work. Students were seen helping each other in all of the different stations.

On the board. A final place students could get support was through looking at the Promethean Board. I would often post on the board instructions about the stations that the students were participating in or specifics about the assignments they were being

asked to complete. If a student asked me a question that could be answered by looking at the Promethean board, I would direct the student's attention to the board.

Work completion. Work completion was another place where routines appeared during the observations. I had laid the groundwork for the level of performance that was expected of my students by the expectations that were set for them. One of the routines for the students was that they use a notebook to record notes while they were working digitally. It was expected that the students would attempt to show their work in their notebooks before asking me for help. When doing this, many of the students were able to individually complete the assignments. Another piece of the digital content expectations was that the students were able to help one another if someone was stuck on a problem, but they were not allowed to just tell them the answers or do the work for them. This expectation held true in the other stations, as well.

Another expectation for the students, especially in targeted instruction, was that they must answer the questions by first restating the prompts, then answering the questions, and finally providing proof for their responses. While this was an expectation on my part, it also became a bit of a routine because that is just how the students were supposed to answer questions, anything less was not accepted.

Conflict resolution. During the observation periods, there were times when students did not see eye to eye while working collaboratively. I handled these conflicts in one of two ways. The first way I handled these conflicts was to ask the students to take ownership of the situation and to speak with the person who committed the offense to try to work out the problem themselves. Other times, the students would get my attention, explain the situation, and I would intervene to assure that the learning continued. With

both of these scenarios, I was very much aware of what was happening and guided the students in ways to resolve the problem, so learning could continue.

Stations logistics. During the stations, there was evidence of a lot of consideration that went into every piece of every station. I posted the stations on the Promethean Board for the students to visually see where they were going and what they needed to do for that station. During the rotations, if a student forgot what to do, I directed that individual to the board. The student could then read what the assignment was.

After a station session was over, I reminded the students how to clean up their stations, and asked them to quickly get ready to rotate. Once the stations were cleaned up, the students stood quietly by their spots, held their materials, and just waited for me to tell them to move to the next station. The students quietly moved to the next station and got right to work. On the times that the students did not move calmly, quietly, and quickly, I called them back to their original station, redirected them by reminding them of the expectations, and had them move again. At the end of the stations for the class period, I once again reminded the students how to clean up, and then monitored them as they cleaned up quickly and quietly.

Throughout the stations, I posted a timer on the board. This timer both helped the students and me keep track of how much time remained in each station and helped motivate the students to clean up quickly. I had a classroom behavior system in which the children earned points towards a goal on a Hundred's Chart. Each time the students cleaned up before the timer went off, they would earn a point. This system worked very well for the students as was evidenced in the way they hurried to clean up and by the way

they encouraged slower students to speed up while they were doing their jobs. It was also obvious that the students really paid attention to the timer during the stations. The following interaction between observed between the students and me:

> One of the girls pointed out to the teacher that the timer was not going, so the teacher set it for her. The teacher played a little with the girl while she did it. The teacher told the girl, "The timer's not set? Oh no! I'll get it set. (chuckle)" The girl had a huge smile on her face and giggled as the teacher played a little with her. The teacher asked the children at the girl's table how many minutes she should put on the timer. "So how much time should I put, guys?" the teacher asked. The independent group told her and showed her on their fingers—"25 minutes?!" the teacher said in a shocked voice. (Giggles from the girl) "You'll be late." "Ten, ten!" "How about 12?" "Twelve, twelve, twelve."

While the children did not understand how much time to put on the timer, they did understand that it was important in keeping their stations rotating on time.

Summary. Several classroom procedures were observed during the classroom observation component of this study. **S**tudent movement, getting materials, general working expectations, how to get help, what student work should look like, how to resolve conflicts, and what the stations logistics entailed were all pieces that fit together in my blended classes. It was observed that each of these pieces worked together to help the Station Rotation blended learning model run smoothly within the classroom.

Preparation of students. In order to get the students ready for the day's Station Rotation model, I took a few minutes at the beginning of the class to review the previous and current days' assignments, to review the work expectations, and to get their materials ready for the rotations.

Review of the previous and current days' assignments. During the observations, I was observed reviewing with the students what they had learned the day before. This including going over what the stations were the previous day and the expectations for the

day in order to set the ground work for the work the students would soon be completing. During this time, I reviewed with the students the skills they were struggling with from the previous day, so they would be aware of them and could work on them. I also included the steps to complete the assignments in the stations, especially if there was a station that was continued from a previous day. In addition to this, I took that time to update students who had been absent the previous day as to what they had missed and what they needed to do.

Review work expectations. The time prior to beginning the stations' work was also used as a time to reset the expectations for the students' work in the stations. In one observed instance, I addressed the way the students were responding to their written prompts. For example, I said, "Students you can't guess on the reading questions. In the book it doesn't say: 'Tom thought Jane was nice because…' You have to search the text for the answer and support your answer with information from the text." By reminding students in this manner, I was setting the stage for the level of work that was to be completed that day. In addition to setting the level of expected work, I also set the expectation for the amount of work to be produced. In one example, I asked the students to raise their hands if they got all of their work done the previous day. Only a handful of children raised their hands. I then prompted the entire class to make better individual choices in order to get their work done that day.

Materials preparation. The few minutes at the start of the learning block was also the time that the students got the materials they would need to begin their learning. This included getting out their Blended Learning Notebooks, taking out their blue books

(math workbooks), or even getting the computers out. All of these activities helped to set the stage for the implementation of the Station Rotation blended learning model that day.

Students' behaviors and actions. As the students worked in the Station Rotation model, there were some different behaviors that were seen. These behaviors fell in the range of being off task to working independently. Within this study, the students worked as individuals and in groups. They found support by interacting with their peers and with me while working through their assignments. There were also times that they were off task and had to be redirected by me.

Independent work. The station in which the highest level of independent work was occurring was the computer station where the students were completing their digital assignments. At this station, students could be observed interacting with their digital content and working in their Blended Learning Notebooks. As a student would finish a lesson, she would get up and move her name on the class Zearn chart to show that she finished. Another student was seen raising both arms in victory and saying a quiet "yes!" because of an accomplished goal. Yet another student who needed support spoke aloud and called out to me saying, "I need help." A nearby student and I both simultaneously reminded her to raise her hand to get the help she needed, but she decided to use paper instead. She said, "Oops! First, I need to use my notebook," demonstrating an understanding of her responsibilities as an independent learner. Upon the completion of one rotation, a student who desired to keep working asked me if she could work on Zearn at home. This again showed how the students were taking ownership of their learning.

Group work. Students were also observed working with their peers in groups. During one observational period, the students were learning how to participate in a

Socratic Seminar. They were being challenged to answer various questions while interacting with one another and the text. This appeared to be very challenging for the students, and I had to step in to provide them guidance. In another instances, however, students were at different stations and were proficiently demonstrating how they could interact with their peers to clarify the answer to a question or to get support on how to complete a question.

Interactions with peers. At other times, the students demonstrated being a support group for one another. One student used his peer as a sounding board when the timer went off indicating that the station he was in was over. The boy, seeming a bit frustrated, shared with a friend that he was almost done with his work but was out of time. The friend looked at his work and appeared to be a support for the boy by recognizing his frustration. At a different point, at the computer station, a peer offered a "good job" to a friend when that person completed a lesson and was able to go on to the Tower of Power (a mini-assessment at the end of a lesson). In addition to the actual work, sometimes the students helped by checking to see if the other students were in the correct group. One student simply asked another student, "What group are you in?" He responded, "The green group." "Okay," she replied.

These peer interactions could also be seen in the game station when students were comparing the answers they got on a question in their game. In one observed moment, a girl was explaining to a boy how she knew her answer was correct. In yet another station, while the students were working on their blue books, a girl raised her hand to get support from me when another student stepped in and helped her with the question. This independent act on the student's part put into action my instructions for the students to

ask their peers for support before asking me for help. This sometimes sounded like a student asking another student, "Do you understand this?" It was also observed that the students would remind other students of the lessons taught by me or of the directions I gave to help them complete their work correctly.

Oftentimes, the peer interaction mentioned above was very welcomed by students. For instance, a second language learner got a big smile on his face when another girl came over to help him with his work. At other times, however, the support was not as welcomed. One student refused to take the advice of the rest of his group about how to complete the work, and replied to them with an "I can do it my own way." Another time, the students had to have a lesson in how to be patient and share materials such as rulers. All in all, the frequency with which the students were not being supportive of one another or were not accepting of the support of others was very minimal during the class observations.

Interactions with the teacher. In addition to interacting with their peers, the students often interacted with me. I provided support to the students when they were not sure what the assignment was or when they were not sure how to complete a problem. It was observed during this model that I took the opportunity to work with struggling students one-on-one or in a small group setting to explain, clarify, and teach the concepts that the students needed as they needed them. Students raised their hands when they were stuck and when their peers were not able to help them figure out the answer. The students also contacted me when they needed learning materials that were not readily available to them, or when they felt they were finished with an assignment.

Most of the time, the students accepted the information I gave them in response to their questions, took that information, and applied it to their work. There was a time or two, however, when the students were not very happy with what I had told them to do. In one instance, the body language of a student clearly showed that he was not happy with what I had asked him to do. However, as would be consistent with the level of expectations I had set up in the classroom, the student did follow what I had asked albeit begrudgingly.

Off task behaviors. As students were learning how to be independent learners, there were times in which they would be off task. During the observations, it appeared that when the students were on the computer, they were—for the most part—engaged and on task. Looking at the game station, most of the students were usually on task, but they would get a bit noisy or too rambunctious at times. The students demonstrated the most off task behaviors during the station in which they were expected to work in their blue books (math workbooks). In looking at the three stations during math, the station with the blue books was also the station that was the most difficult for the students to understand and complete.

When the students were off task, they would do a variety of different things. Some students would simply talk about off subject topics. One girl was observed putting hair clips on her fingertips and pretending they were long fingernails. Other girls found it fun to dance around, to hit and poke each other, or to color their hair with markers instead of completing their work. It was noticed that when I walked by the students, they would pretend to be engaged just long enough for me to pass by, and then they would go back to doing whatever off task behavior they were engaged in before I went by. Occasionally,

some of the students would even leave their stations and go talk with other students who were working.

Throughout the station rotations, I would work the room and try to keep as many students as possible on task and engaged in their work. The students were very aware of me, however, and became quite skilled at knowing where I was in order to hide their off task behavior from my eyes.

Teacher's actions and unexpected activities. During the Station Rotation model, a teacher has many different roles. The teacher must manage the entire group of students, manage materials, work the room, redirect behaviors, answer questions students may have, positively interact with the students, and handle any other situations that may occur from day to day not related to the blended learning block.

Manage the group. During the observations, I was observed managing the classroom as a whole. I directed when the students rotated through their various groups and how they rotated. When I was rotating the students to the different groups, I prepped them as to how they should move. During one observation, I reminded each group what they should be doing. I counted back to let the students know how much time they had to be ready while they hurriedly cleaned up and prepared to move to their next stations. When I was done counting, I asked the students to move to their next stations. Another piece of managing the group was helping students who were returning from a different class to know which station to go to and what to do.

Managing the schedule of which stations were being presented on which day was another part of my role as the teacher. During one of the observational periods, the

students were just getting back to school after a snow day. I revamped the schedule a bit to adjust for the missed day of instruction.

Manage materials. In addition to managing the group of students, I also helped in managing the materials the students used to learn. At times, this was as simple as me getting the students pencils or markers. I was also observed helping students get the next assignment they needed when they finished a task. While visiting the game station, there were times that I provided the students with a grading key to correct their work or a new game if the students needed something different to refocus their attention.

Work the room. Throughout the observations, I was continually "working the room." This meant that I continually walked around the room, checked in with the students, answered questions, retaught concepts, and redirected behaviors throughout the entire rotation period. Even when I stopped to visit with a student or group, my eyes would glance around the room to assure the other students were on task. If I noticed a student or a group of students who was working diligently, I quietly left them alone so as to not disturb their work.

Redirect behaviors. While I worked the room, I addressed behaviors that were not conducive to learning. One of the most frequent behaviors was that of too much talking or talking too loudly. When the students engaged in conversations that were not related to the subject matter, I would redirect those students. I encouraged them to get back to work. Sometimes, I directed the management of the students' behavior back to them by asking them, "Can you focus over here?" The students then had to decide for themselves if they should remain with their group or work independently somewhere else. If the students chose to continue working together, but could still not manage their

behavior, I would then split the group up and move the students to independent working locations.

Other times, I had to address the behavior of a student who was simply not doing anything. At those times, I would remind the student to get to work. During one observation, I had closely watched a student who was doing minimal work. I commented to him that in the four times I had been around the room, he had written one sentence and that he needed to get working. Once this was pointed out to the student, he began working. Another time, I addressed a student that had not been working for ten minutes. I referenced the timer on the board that stated there were only nine minutes remaining of the current station. I told the student he only had nine minutes to get his work completed. I also explained to the student that he should not waste the time because he really needed the practice that the assignment would give him as he completed his work. Another student sitting near this boy explained to me why the other student had not completed anything in ten minutes. Once I knew what the problem was, I was then able to understand why the student was not working, and I was able to help him solve his problem. Once the problem was solved, the student began working.

Answer questions. A very large part of my role as a teacher during the Station Rotation model was helping clarify questions for the students. I constantly roamed around the room answering questions for students and helping them understand how to complete their assigned work. At one point, as I went around, I began seeing the students ask the same question over and over. It was at this point that I chose to put the station rotation on hold for a few minutes to address this question with the whole group. I directed everyone to pause their work for a moment and to join me on the carpet for a

quick Minute Math Lesson on the floor. At this point, I was not concerned if the students were all seated in their normally assigned spots or if they were even all sitting cross legged. I just needed the students close enough to hear the quick minute or two lesson and then I dismissed them to go back to their learning. To emphasize that the stations had officially been paused, I literally paused the timer on the board. This way the students would not feel like they were missing out on their station time and would be able to focus more on what I was saying. As the students returned to their work, it was obvious that the lesson had made a difference in the students' learning. Students were observed supporting one another on their math problems by referencing the mini lesson.

By continually walking around during the station rotations, I was also able to support students who were struggling but who did not necessarily want to admit it by themselves. The following scenario was observed during one of the observation periods.

> The teacher stopped and asked a student how she was doing because she looked puzzled. At first, the girl said she was okay, but then when the teacher said the girl looked puzzled, the girl admitted that she needed support. The teacher worked with her to help her understand the concept and to complete the problem. She left the girl to work on her own, but gave an offer to help with the next question if the girl needed.

Positive student interactions. Another role I played during the observations was the role of providing positive interactions with the students. This came about in two ways: praising the students for their successes and playing with the students while they were working. Both of these interactions helped the students stay motivated to complete their work.

Successes. Throughout the observations, the students would seek me out to inform me of how they were doing on their digital content. Some of the students would share with me how far they had worked in their content. Other students would share that

they got a new avatar due to their progress or that they had earned a high score. Regardless what the success was, I congratulated the child on the job well done. It was also observed that when one student received a compliment or "good job," other students wanted some recognition, too, and would pipe up and share something good that they also did.

Play. Another positive interaction I had with the students was interacting with them in the form of play. At times I would joke or lightly tease the students which resulted in smiles and laughter on the students' parts. Sometimes student and I would laugh about something as simple as the student trying to use a regular monitor as a touch screen with me chuckling, too, because I had done the same thing in the past. Other times, I initiated the play. One example of that was seen in the game station.

> Two girls in the game station were racing to fill in a multiplication chart. One girl was really fast and was always speeding ahead of her partner. The teacher picked up the speedy girl's paper and said that she should fill in these numbers "right here" (holding and pointing to the girl's paper); meanwhile, she quickly told the other girl to "keep going" and then she repeated what she said again. Basically, the teacher was giving the other girl a head start while playing with them a bit.

Other situations. While completing all of the above tasks, I was also observed having to deal with different issues or managerial tasks during the rotations. One area I had to deal with was disciplinary issues. Several times during the observations the assistant principal came in to pull students due to a discipline issue that had occurred earlier in the day. Another time, the assistant principal needed me for a moment for a different reason. With several of these instances, I had paused what I was doing to assist the administrator and then returned quickly to work with the students.

In addition to disciplinary issues, I also had other occurrences that vied for my time. For instance, the phone would ring or an announcement would come over the

intercom. With one of these, the office asked me to dismiss a student for the day. Thus, I paused what I was doing to help that student get ready to leave.

Other times, the interruptions were more minimal. In one instance, a girl needed Vaseline for her lips, or in a different instance, cupcakes arrived for a party. With these sorts of incidents, I quickly addressed the issue at hand and made sure the students went right back to work.

Attendance or the lack thereof in my classroom also created an interesting twist during one of the observations. Due to a Christmas choir concert that was occurring later in the afternoon, several of my targeted instruction students were out of the room. This made for very small groups in each of the stations. At first, I wondered if it would be worth running the station rotations that day, but in the end, it did not stop the students who were present from participating and learning just as they always did in the blended learning model.

Summary. During the observations, I was observed balancing many different tasks. These tasks included managing the entire group of students, managing materials, working the room, redirecting behaviors, answering questions, positively interacting with the students, and handling any other situations that arose. All of these tasks were implemented while the students interacted with their peers and their curriculum and helped to keep the station rotations running effectively.

Research Question 1 Summary

The first research question was "What happens within an elementary classroom as a Station Rotation blended learning model is implemented?" The three data sources that were used to answer the first research question, the teacher questionnaire, the

teacher/researcher journals, and the observations, revealed several similarities in the happenings within the blended classroom. Figure 8 visually shows nine themes that funneled out of the three data sources. Each of the nine circles represents a theme that was present in all three sources of data. Seven of these themes were directly related to teacher's actions within the blended classroom: Managing Learning Materials/Work Spaces, Routines, Classroom Management, Technology, Teacher's Role, Logistics of Blended Learning, and Instructional Considerations. Two of the themes, while not actions directly performed by the teacher, still impacted the teacher's decisions within the classroom: Students' Actions and Interruptions to Learning.

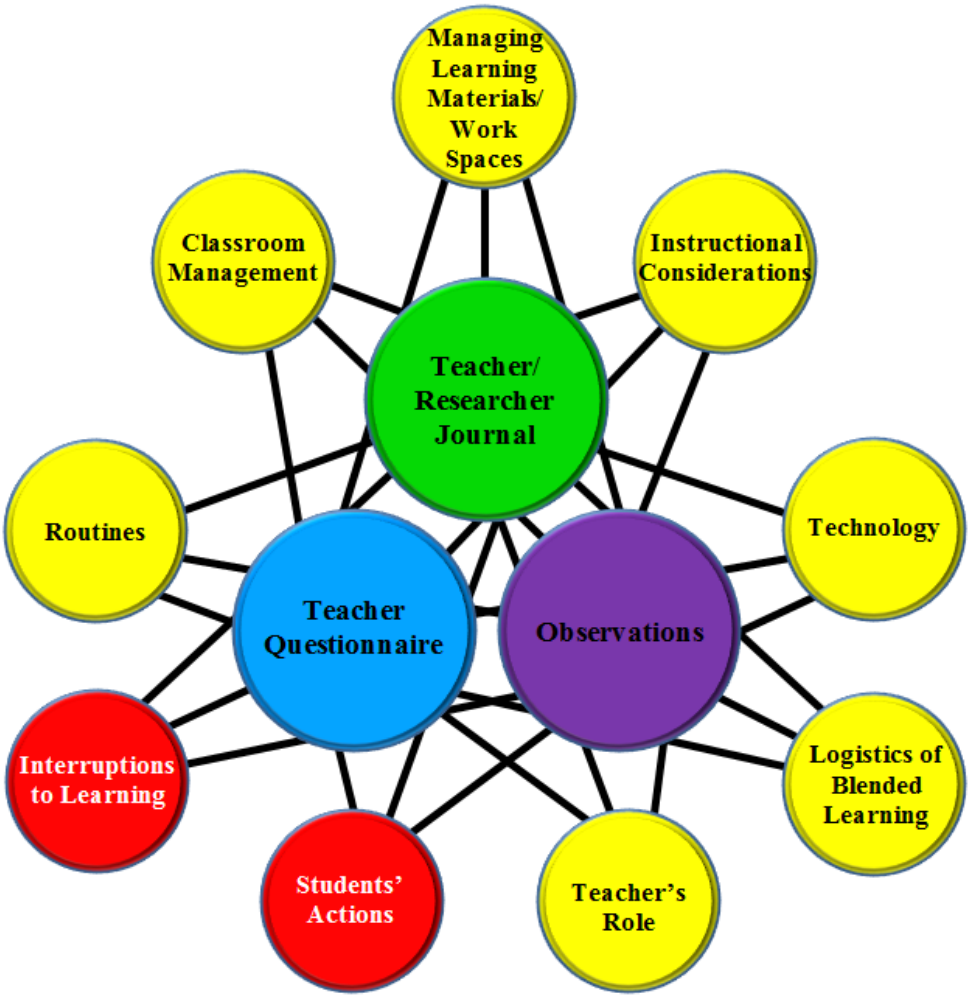

Figure 8. Visual Summary of Research Question 1

Student Perceptions of Blended Learning

The second research question was answered using the student focus group interviews and the student questionnaires. These two sources of data provided a large quantity of information to report out. Figure 9 has been provided to guide the reader in seeing the information at a glance.

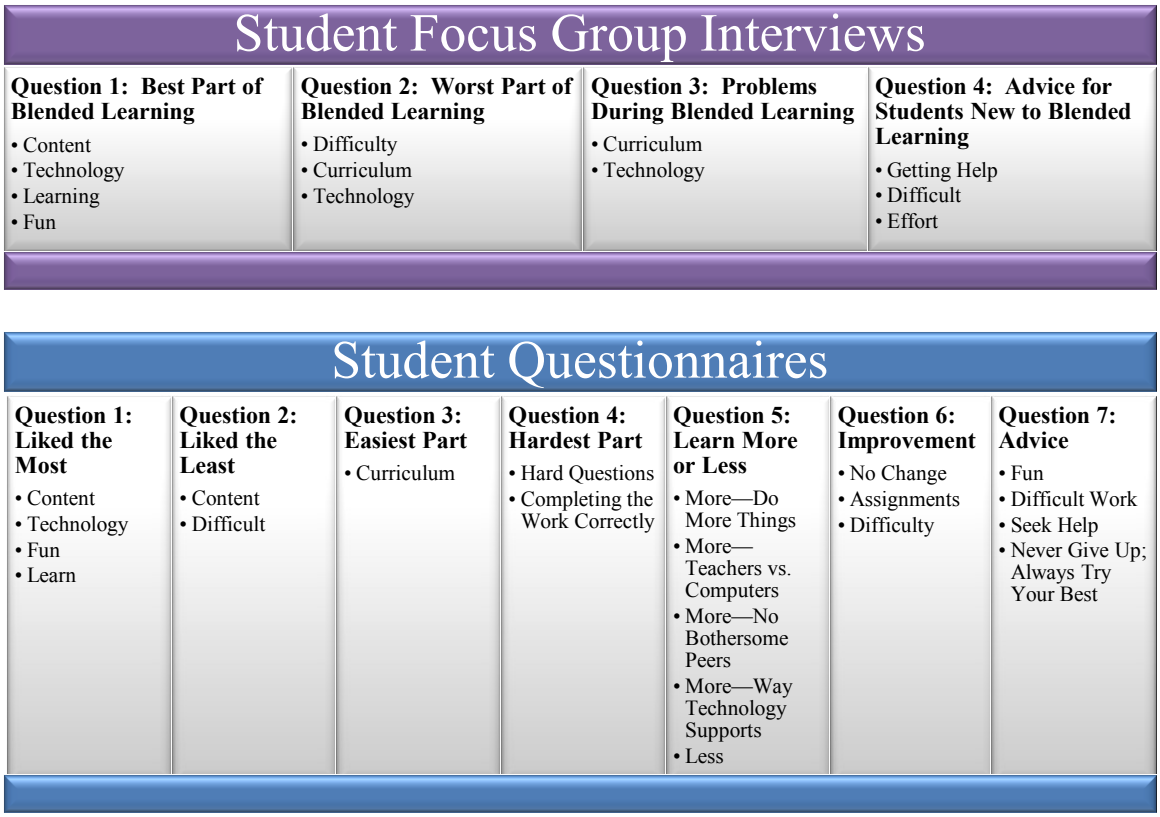

Figure 9. Research Question 2 Overview

In answering the research question "What are students' perceptions of the Station Rotation blended learning model in an elementary classroom?" the student focus group interviews and the student questionnaires were utilized. Each of these data collection methods will be shared out separately. A brief vignette will be shared providing a

glimpse into what the environment was like during each data collection followed by the data that were collected during the sessions.

Student Focus Group Interviews

During a brief period of the school day, the students were away from the classroom enjoying their specials (music, physical education, art, and library/technology), soaking in the sunshine outside on the school's playground during their recess, and getting some nourishment from the school's lunchroom. It was during the middle of this time period—during their recess—that I was able to tap into their third grade students' minds and really see what they thought of the Station Rotation blended learning model.

As the students got out of specials, a select six hurried back to my classroom. This excited group of students only learned that morning that they were chosen to come interview with me during their recess that day. Earlier in the morning, these students had held their breathe, along with all the other students in the classroom, to see if they were the chosen ones as I drew out the six names. I could hear their excited chatter coming down the hall even with my classroom door closed.

As they entered my room, I directed them to a round table in the back of the room. On the table were a laptop computer, six number cards, and a microphone in the center of the table that was shaped like a snowball on a tripod. As I introduced the students to the setup, they noticed that the microphone had the word "Blue" printed on it, and from that day forward, the students fondly called the microphone "Blue" (See Appendix L).

As the interview session began, I could see that while the students were excited they were a bit nervous about the microphone. I explained to the students that "Blue" was just a microphone and did not have any videoing capabilities. Therefore, I would only be recording their voices. Once this was explained, the students visibly relaxed and continued their excited chatter. I then began reading the focus group interview script and started to hear the thoughts of these children around blended learning. The students seemed confident in their answers; they knew what they knew and were eager to let the adults of the world hear their expertise.

Focus Group Interview Questions

Twenty-nine student participants participated in the interview process two times—once during the middle of the semester data collection period and once during the end of the semester data collection period. Two additional students only participated once due to either moving away from the school just after the midpoint of the semester or due to moving into the school just after the midpoint of the semester. During the student focus group interviews, students were asked the following five questions:

1. What is the best part of blended learning?
2. What is the worst part of blended learning?
3. Have you had any problems during blended learning? How did you fix them?
4. What advice would you give to students who have never done blended learning before?
5. Do you have anything else you would like to share about blended learning?

All of the data from each of the different interview sessions were compiled and then coded to find common themes. Even though there were only 31 students participating in the study, 29 of the students participated in the focus group interviews two different times over the period of the semester and some of the students shared multiple responses to each question, so the data resulted in more than 31 responses for each of the questions.

The data from each of these questions were shared separately, with the exception of the fifth question that asked if the students had anything else to share about blended learning. As the students answered this question, their responses added more information to one of the four previously asked questions; therefore, their responses have been added to the appropriate question.

Question 1: Best part of blended learning. When asked about the best part of blended learning, the students eagerly shared multiple ways in which they felt blended learning was positive. Of the multiple ways, four main themes came out of their sharing: content, technology, learning, and fun.

Content. During the focus group interviews, students mentioned different types of content 43 times as being what they thought was the best part of blended learning. Their comments addressed content and activities in both literacy and math. In literacy,

their interests included taking vocabulary quizzes, writing letters, practicing finding the main idea and details, reading books/doing a book study, and playing games. In their words, "[The digital content] has really cool ... spelling--spelling games and reading."

The math content included activities such as Mickey Mouse Math (a station in the Station Rotation where students play a variety of math games to practice their skills), blue books (paper/pencil workbooks for students to practice the skills they are learning electronically), learning about addition, subtraction, multiplication, and division, and working through equations and writing number models. One student shared, "The best [thing] about blended learning is that there's a bunch of equations and different math problems that you can solve." Additionally, the students mentioned working in the Zearn software and completing activities such as the Math Chats, Towers of Power, and Number Bond Dashes. They commented how they liked the way "that on the Tower of Power or something, it'll help you through and like you try it again."

Technology. Another bright point in blended learning for the students was using technology during their station rotations. As in the content category, students mentioned technology as being the best part of blended learning 34 times. Through their interviewing, students mentioned nearly every learning platform that they had been learning on: Zearn, Schoology, the Internet, Wonders, Khan Academy, and just websites in general. The students also mentioned each of the different stations that they participated in during the Station Rotation model: independent, collaborative, and technology. They expressed that they were very excited to be able to use computers and to access the technology. One student emphatically expressed that, "The [best] part of it is we get to be on the computers and we get to touch technology. My mom did not let me

to-touch technology until I'm at home and I have to do um, Zearn homework." Another student shared "that just being in front of something digital helps me, like, learn more."

Learning. The third theme that came out of this question was the idea that the students really liked that they learned a lot while participating in the Station Rotation blended learning model. Twenty-seven different times, students mentioned that the best part of blended learning is that they actually learned. They felt that they gained more knowledge, learned different things, and in general were educated by this model. One student said, "I am happy I am in blended learning, because I learned more and it makes me smarter." They commented on how the software programs actually told them how to correctly do the problems and helped them understand by walking them through the problems. One student shared, "it helped me because…I didn't get it, but then when I got on the computer it actually like helped me and put more…ins-instructions." Another student shared that "it helps my brain grows and it makes [me] learn more."

Fun. A final theme that came out of this question was that blended learning is simply fun. Sixteen times, the students expressed this opinion about blended learning. The students felt that working in a Station Rotation learning model was a fun way to learn. One student shared that "once you get the hang of doing it, it's real-- it's really fun to do." Another student shared an insight into blended learning. He said, "What I think is the best part about blended learning is that, um, it's easy to get closed into, because you really get addicted to it once you do it the first time." Some students also shared that they enjoyed working in the digital content, Zearn, and that they enjoyed answering the prompts and questions they were given during their time in blended learning. They

excitedly shared that blended learning was fun and awesome, and that "you get to learn new things and it's actually kind of fun."

Question 2: Worst part of blended learning. After sharing what the best part of blended learning was, the students were also asked to share what the worst part of blended learning was. The students expressed three main areas in which blended learning was the worst: difficulty, the curriculum, and technology.

Difficulty. Through the interviewing, the students expressed that there were many difficult aspects with participating in blended learning in the classroom. Twenty-four students indicated that blended learning was simply hard with an additional eight students expressing that what they were being asked to do was confusing or tricky. One student shared, "Some of the questions are really, really hard that I-I have to skip some of the questions because I don't get them." Another student shared that the problems are so difficult, that he becomes frustrated and angry. In his own words, he says,

> When I don't get it right all the time, when I keep on trying and trying and trying and I don't get it, I get kind of angry. And so, that's why I keep on raising my hand for [the teacher's] help, like on mission two when I was stuck on that clock one I kept on trying and trying and trying but I still didn't get it. That's why-- so I got mad, but then I just calmed down and I just raised my hand for help.

Six students commented that blended learning was difficult because their friends were oftentimes so noisy or off task that they were not able to focus. One example of this was when "the teacher says something about math and, and if people were—are messing around, you, you, can't hear the teacher." Another student commented on how "the hardest part of blended learning is when you're trying to concentrate…and then someone else is talking and then you lose your focus."

Curriculum. The second theme the students shared about blended learning was actually around the curriculum they were studying. Seventeen individuals commented on various aspects of the curriculum. Common complaints were around the blue book (the math workbook), the websites they had to search, various aspects of Zearn such as the Tower of Power and the Math Chats, and basic math calculations including multiplication, division, and subtraction.

Technology. The third theme that was expressed during this portion of the interview sessions was challenges with the technology. Fifteen students commented on various issues that revolved around the technology aspect of blended learning. They mentioned challenges such as having to learn how to log into various sites and having to know their logins and passwords. They also commented on how the software they were using would either freeze on them or would not accept a correct answer. A specific example of this was "sometimes in Zearn that you get come up with hard problems and then you get the ... correct answer on Tower of Power but it says you're wrong."

Question 3: Problems during blended learning. During the focus group interview sessions, the students were also asked if they had any problems while participating in the Station Rotation blended learning model. Of the responses given for this question, there were only seven responses that expressed there were no problems during implementation. The other responses, however, all expressed various problems. These problems can be generally grouped into two categories: curriculum problems and technology based problems.

Curriculum. A large amount of the problems students reported during the blended learning model revolved around the curriculum they were expected to complete

while they were doing their station rotations. Thirty-five different times, the students commented on this. They reported that the curriculum was very challenging, and they voiced different ways they dealt with the challenge. The following are a few of their thoughts: "On Math Chat… it used to be hard, but now it's not…what really helped me with it is because…my mom wrote a note to my teacher…and my teacher read it, and…I've been getting a lot of help since then." Another student stated, "I had problems with Zearn…when I went to higher lessons like I'm at seven…the Tower of Powers get really hard, and I get angry, and sometimes I just like take a little break, and then I-- I cool off, and then I get some right, but then I get some wrong again." A third student shared, "I have a problem because when I l-look at the questions, I don't know it well. I go back in the text…and re-read it an-and I get the answer then." A fourth student expressed the challenge in this way, "On Zearn…they do like really hard problems, and I couldn't figure them out. But then I raised my hands. Then,…[my teacher] comes. And then-then she tolds me-- tells me the easiest way to figure it out, and then I get the answer."

Technology. The second area that caused the students problems was around the idea of the technology itself. Thirteen students voiced the opinion that technology caused problems while they were trying to learn using digital content. Some of the students commented that the computers or software would freeze while they were trying to complete their digital content. Other students commented on how the computers would sometimes take them to a black screen or to the Windows page, and they had to figure out how to get back to their digital content. One student put it this way, "The computer took me somewhere of nowhere, then I pressed the button, then it took me back to Zearn." It

was also reported that sometimes the program kicked a student out of the program and that individual had to first log back in before being able to continue completing the digital content. In addition to having difficulties staying in the program and being able to work, students reported that sometimes they were ready to work faster than the computer could handle. As they tried to go quickly through the lessons, the computer would freeze up and the students were required to wait while the computer tried to catch up.

Question 4: Advice for students new to blended learning. Another piece of information the students were asked for was a bit of advice for individuals new to blended learning. Hearing the types of advice the students would give to someone just starting blended learning provided an insight to what they felt was important to know about the Station Rotation blended learning model. Much of the advice was around getting help during the station rotation. Other areas that they discussed were around blended learning being difficult and around the efforts the new students needed to make to be successful learners.

Getting help. The most common advice given by the students was around getting help while completing the assignments in the Station Rotation model. Forty-two individuals offered advice that fell into this theme. Students shared two main ways of getting help: talking to a teacher or talking to a peer. Students who suggested asking a teacher mentioned that they felt teachers were a resource in the classroom, and they were confident that teachers would be able to help them. One student shared, "If there was a new kid that came in our house [school] and came into the class and he didn't know about blended learning, I would tell him that it's fun and some of the questions are hard but if he just asks the teacher, she'll help you." Another student said, "I would give advice to

people that haven't done blended learning before that…if you're stuck on a, uh, a-a word, you, you always need to raise your hand to ask the teacher." Students who suggested that new students to blended learning should ask the teacher for help also acknowledged at times that the curriculum was difficult, but that the teachers were there to help. One student stated, "That blended learning is a really fun learning source, and sometimes it might get a little difficult, but that's okay. There's teachers to help you too."

Some students also felt that peers in the classroom could be of help, as well. One student shared a mini scenario about how the conversation would go between a student who was familiar to blended learning and a student new to blended learning: "This is blended learning. I think you're new to it. So if you need any help just ask me, and I can help you, or if you're on the blue book you can ask a friend next to you to help you, but remember this is silent time. Shhhh!" One of the students pretended to be a teacher while he answered this question. He shared this advice, "Hi, I'm Mr. Blank. I … know that you're new to blended learning, so if you need any help, um, just ask a friend next to you quietly, or if they don't understand either, ask the teacher. Any time, raise your hand quietly or I will not come to [help] you."

Difficult. The second popular piece of advice given by the students was that blended learning can be difficult at times. Twenty students felt it was important to let students new to blended learning know that the work they would encounter would be difficult or would get more difficult as they continued working through the blended learning model. One student shared, "The advice that I would give to a person who's never done blended learning before is, um, when you first start Zearn, it might be easy or hard, and once you get onto the Tower of Power, like on lesson 14 or something, it can

get harder, and harder, and harder, and harder as you go." Students found that they had to work at the curriculum that they encounter during blended learning. One student shared, "… it's hard for me because like it's-- it's hard work …" One student compared the rigor of the blended learning work against that of a regular classroom the year before: "What we're learning-- well, what we used to learn, like last year, was easy and, um, like really, really easy, but this year it's a little bit complicated because all this math is new to us."

While the students shared that the material was difficult, some of them gave advice to help. One student shared, "That … on Tower Power, we have to do just one big question, and it's kinda hard so we have to like get paper and try. And you have to like add all these kinds of numbers. It's kind of tricky 'cause you might lose count. That's why you use the paper."

Other students expressed that blended learning was not always difficult, but it could be a mix of difficult and easy work. For example, "it's fun, but it's a-- it's a lot harder and it's easy a little." Another student said, "The advice I would give to the student is that it's not always easy. It's sometimes hard."

Effort. The third piece of advice that several students gave was around the idea of effort when tackling blended learning. Sixteen students expressed the opinion that students needed to do their best, keep trying, and never give up. The following are a few of their encouraging words. One student said, "I would tell them to not-not give up and try your best." While another student advised, "If you don't get a problem, just keep just … try your best and don't give up." Another comment that was made first addressed the point that the questions vary in difficulty at times, "That sometimes the questions are

hard and easy. So you have to just try and when you can't, you can tell the teacher to help you." Another student thought, "The advice that I would give them is that when you have a problem just keep on working and try your best." The common theme amongst these students was mentioned in this statement, "I would give advice to a new student that the blended learning, if they can[’t]get it … just don't give up, and you'll try and try, and you'll probably … do it." Another student shared the reasoning behind why the students should put the effort into doing their best, "When you get to Zearn, try your best ‘cuz then if you do you'll-you'll get more educated and-and ahead than some of your classmates." In simple terms students shared the idea that students new to blended learning should just not give up. They said, "Try your best and get your lessons done," and "You should try it and that don't, don't give up, and try your best."

Summary. During the student focus group interviews, 31 students shared their knowledge about blended learning. They spoke to the best parts of blended learning, the worst parts of blended learning, and to the problems they encountered while participating in blended learning. The students also shared advice they would give to new students just beginning to experience blended learning for the first time. These thoughts and suggestions provided insight into what students’ perceptions were of the Station Rotation blended learning model.

Student Questionnaires

The following section shares a vignette that offers a glimpse into the data collection environment as the students completed the student questionnaires. Following this glimpse into the data collection environment, the data from the questionnaires that were completed by 31 students both during the mid-semester data collection period and

the end-of-the-semester data collection are shared. As with the student focus group interviews, two students only participated in this component of the study one time due to either moving away from the school right after the first data collection period or moving into the school right after that data collection period.

The classroom was a busy place during the Friday morning in which the student questionnaires were filled out. Students who were not participating in the study were wrapped around the outside of the classroom working on their digital math curriculum. Students from the other two classrooms who were participating in the study joined us in our room. All of the desks were filled with students, and there was an almost tangible energy in the room. All of the students at desks had a pencil and a plain, white 3-sided cardboard divider set up on their desks creating a personal office space for them to work in while completing the student questionnaire. The students were accustomed to working with these dividers, as this is a similar setup to when they were assessed in the various subject areas.

As I began to read the directions to the students who were completing the questionnaires, I had to try to reign in their energy. The excitement they had about participating in the study was making it difficult for them to focus and settle down long enough to hear what they were being asked to do. After some work on my part, they students finally settled down and were ready to begin. I read them the directions and emphasized the importance of NOT putting their names on their papers—something unheard of in my class—which added to the mystery of the whole process.

A hush came over the room as the students engaged in their work and as they settled into their task. As I walked around the room monitoring the students and answering any questions they had, students were working hard to put their knowledge onto the lines on the papers.

Student Questionnaire Questions

The student questionnaires consisted of eight questions:

1. What do you like the most about blended learning?
2. What do you like the least about blended learning?
3. What is the easiest part of blended learning?
4. What is the hardest part of blended learning?
5. Do you feel like you learn more or less during blended learning that you do during the regular class time? Why?

6. If you could make an improvement (make something better) to blended learning, what would you change?
7. What advice would you give to a student new to blended learning?
8. Is there anything else you would like to share about blended learning?

The data from these eight questions were shared out separately with the exception of the final question that asks if there was anything else the student wanted to share. The responses from this question fit into the other seven questions, so the responses from the eighth question will be shared within the question that best matches the response.

Question 1: Liked the most. The first question the students were asked on the student questionnaire was what they liked the most about blended learning. The students had a variety of responses around what they liked with the top four including the actual content they were learning, the technology aspect, that blended learning was fun, and that they were able to learn.

Content. Twenty students commented on the specific content that they were learning as being the best part of blended learning. They specifically mentioned the digital programs they were working on such as Zearn, Wonders, and Khan Academy. They also commented on Mickey Mouse Math which were the game-like learning activities the students would work on in the collaborative station during implementation of the Station Rotation blended learning model.

Technology. The second aspect the students liked the most about blended learning was being able to use technology to learn. Sixteen students mentioned this aspect in their surveys. As one student put it, "What i like The most [about] blended learning is That we get to use The computers." Another student shared an excitement

about using the computers by sharing, “being on tak this yong!” [being on tech. this young!]

Fun. The third most common response was that blended learning was fun. Thirteen students were in agreement that participating in blended learning was fun. A couple of students had the following to say about blended learning: “I like the most about blended learning is that its fun to Just Sit down and do stuft and with some things like Zearn, You can do it at home.” Another student shared, “The most part I like about blended learning is that you get to anwser fun promlems.”

Learn. In addition to talking about the content, technology, and fun of blended learning, the students also shared that something they liked was that they learned. Twelve students mentioned in various ways that they felt like participating in the Station Rotation blended learning model allowed them to gain the knowledge that they sought by going to school. One student commented on how the teacher helped with the learning by saying, “I like how [my teacher] likes to teach us about diffrent things we have not learned about.” Another student came to the realization that as the students were learning math through the Station Rotation blended learning model, their brains were growing. This student shared, “I like learn to learn about math I like math becase it helps my brain grows and it makes[me] learn more.” Another student summed it up nicely by saying, “What I like most is I get mor ajuektid [educated].”

Question 2: Liked the least. The second question the students were asked was the opposite of the previous one; what do you like the least about blended learning? Once again, the students had a wide variety of responses to this question. The top two

responses on this question revolved around the specific content that they were doing and around the difficulty of the work they were being asked to complete.

Content. As the students explained what they liked least about the Station Rotation blended learning model, it became obvious that a majority of the students did not look at the technology aspect of the learning model, but rather specific activities, lessons, and content they were being asked to learn. Twenty-three times, the students commented on the actual curriculum. Sometimes this was due to the curriculum being difficult, and sometimes it was simply related to learning a specific skill like multiplication or division. An example of this was when a student said, "The thing that I like the least is division 7's facts." Other times, students mentioned that they did not like completing the packets of questions that went along with a book study or completing the blue book in math (their paper/pencil practice workbooks). For instance, one student shared, "What I like the least about blended learning is doing the blue book because the Questions you are giving us are had [hard]." One student shared that, "the least thing that I like about blended learning is When We do spelling because We don't get to do it on the computers," which would indicate that this student would prefer more of the learning to be provided digitally.

Difficult. Another theme that came out of this question was that much of the workload was challenging for the students. This theme is closely related to the previous one. Nineteen of the students voiced the concern that what they were learning and what they were being asked to do during their Station Rotation model was very difficult for them. One student voiced it this way, "I don't like about it becase it is to hard and I can't chach up." Another student echoed that sentiment by saying, "I like the least about it it's

hard very hard." Some of the students admitted that the work was hard, but they saw the benefit of completing it like this student who said, "I like the least about blended learning is that I can't figure out some thing I just think then I will fugure it. That gets me smarter."

Question 3. Easiest part. The third question the students were asked was "What is the easiest part of blended learning?" Forty-nine times, the students commented on something related to the curriculum that they were being asked to work through and learn. Much of the curriculum the students referred to was presented in a game like fashion while others just said the early lessons in a unit of study.

Curriculum. Several students commented that the Mickey Mouse Math was the easiest part of blended learning. Mickey Mouse Math was a collaborative station in which the students played math games to practice their math skills. These games changed based on the topic of the unit that the class was studying. Other students decided that the math sprints in their digital content were the easiest. These sprints were fact fluency races that the students completed at the beginning of each lesson in their digital content. Several of these students also generally shared that math was the easiest part. Some students specifically mentioned addition, subtraction, and multiplication, while others simply said the easiest part was math. A small group of these students mentioned that the lessons were easier when you started a unit; they listed lesson numbers such as lesson one to provide an example of the lesson numbers they were referring to.

Question 4: Hardest part. The fourth question asked the students what the hardest part of blended learning was. Students rarely mentioned difficulties with the

actual technology. In fact, only four students commented on the technology aspect of blended learning, and three of those four comments revolved around having to know the passwords to login to the digital content. One of the hardest pieces that was reported out was specific to the content and topics the students were being asked to learn. The other piece was how the students found it difficult to understand the work they were being asked to complete. Sixty different times students commented on this.

Hard questions. Several times during the questionnaires, students listed that the work they had to do was difficult for them. One student said, "The hardes [hardest] part of blended learning is blue books because you give me hard Questions." Another student shared the opinion of others by saying, "divid by is hard for my [me]." Several students had voiced their concern about the difficulty of division. Another student, however, expanded on this by stating that "The hardest part of blended learning is division and subtraction and word probems [problems]." Beyond math concepts, other students also listed reading and book studies as being difficult.

Completing the work correctly. In addition to listing out the specific subject matter as being difficult, students also mentioned that they found it difficult to figure out the correct answers to the assigned problems. An individual said, "The hardest part about blended learning is when you are on an computer and you are on a tower of power and you are doing a mopacatoin [multiplication] sentanes [sentence], or a math problem, and you can't figure it out, and you keep getting it rong, rong, rong [wrong]." Another student shared, "The hardest part of blended is Zearn because I don't understand division prombles [problems]." On a similar note, one student shared that it was difficult to gain an "understanding [of] what hard words mean for questions." The difficulty in figuring

out and answering questions correctly was evident in almost a third of the sixty comments mentioned above.

Question 5: Learn more or less. The fifth question the students were asked on their student questionnaires was do you feel like you learn more or less during blended learning than you do during the regular class time, and why? When looking at the responses on the questionnaires, 41 of the students responded that they learned more during the implementation of the Station Rotation blended learning model than when they participated in a traditional class period. Only 10 students felt they learned less. These responses fell into the following categories.

More—Do more things. Students who shared they learned more looked at the class time as an opportunity to gain more knowledge through the model and through the use of technology. Some of the students commented on how the Station Rotation model allowed them the opportunity to do more things during the math block. One of the students responded this way: "I feel like I learn more blended learning during the regular class time because you useily [usually] have 4 things todo on every lesson. And as much you do, you get smater, smarter, SMARTER!" Another student shared, "I feel like I lern more in stashon rotashon [Station Rotation] because you do 3 thing in 13 miniuts." While another student shared, "I fell [feel] I learn more during blended learning because you actally get on computers and it teaches you more than in class."

More—Teachers vs. computers. Other students commented on how the use of technology allowed the students to learn more than what the teacher would normally be able to provide. For instance, "I feel that I learn more during blended on Zearn is becaus [my teacher] cant teach us all when wer are all on different lessons that would be hard

and noisey." Another student echoed that sentiment by saying, "I feel I learn more in blended learning because we are in differend lessons and it is hard to teach all the lessons at owns [once]." A couple of students felt that the learning that was taking place was more complete than in a traditional model where only the teacher was providing the instruction. One of those students shared, "I think I am learning more because then the teacher can't forget anything" [that she is supposed to teach me during the lesson]. The other student felt the class learned more "Because when your in class time the teachers sometimes don't Know all of this stuff."

More—No bothersome peers. In addition to doing more things during the Station Rotation model and in addition to technology providing more information than a teacher could normally do, some of the students appreciated the fact that they learned more simply because students were more engaged in their work and were not bothering their peers. Students shared that while their peers were on the computers, it was quiet and they were able to concentrate without their friends bothering them. A couple of students shared this thinking by stating, "I learn more because nothing or anyone is bothoring me," and "I lern mor on computer beause [because] everyone is so quiet."

More—Way technology supports. Another way the students felt they learned more was by the means through which the curriculum was presented to them. When the students were on the computers completing their digital instruction, there were supports within the digital content that helped the students learn the concepts. Several students commented on these supports. One student said, "I feel like I learn more because its really giveing more imformation That we really need." Another student said, "I feel Like I learn more in blended learning because it is easier because it does more things for you."

Following those same thoughts, another student shared, “I feel like. I learn more on blended learning because it expains to you why.” A couple of the students commented on the difficulty of the work provided on the computers and how that helped students learn more. One student shared, “I leard [learned] more than reguler class time because blended learning gives me harder qeustions and larger numbers.” Another student stated, “I feel like learning more than class time beacause you get to do hard things and I like hard things and you could go on wonders and that helps you learn.”

Less. While a majority of the students felt like they learned more in the Station Rotation blended learning model than the traditional learning models, a small amount of students felt that they learned more by being in a traditional classroom. The reasons they gave for not learning as much in the blended learning classroom were often the direct opposites of what the previous students shared. Some of the students felt that they learned more from the teachers than the computers. One student shared the sentiment this way, “I feel like we learn more when we don’t use the computers because I think the teachers have more knolge [knowledge]!” Another student said, “[My teacher] can explan it to me more then the con peter [computer] Does.” Other students found that the difficulty of the work on the computer made it hard for them to learn. As one student shared, I learn better “Whith out coputers becose the queschons on the computer are to hard [Without computers because the questions on the computer are too hard].” Another student simply felt that “I think [I learn] less because, When you have trouble with an ansew [answer] it’s easer [easier] to remember what you learnd during class time.”

Question 6: Improvement. Another question students were asked on the student questionnaire was around the idea of what kind of improvements the students

would make if they could change something about blended learning. There were three popular responses. The first response was that no changes were needed. The second popular response related to the actual assignments the students were completing and the software being utilized during blended learning. The third most popular response was in relation to the difficulty of the work they had to complete.

No change. One of the popular responses around what needed to be changed was nothing. When looking at the data, one of the responses that was frequently given was that no changes were needed. Fifteen students shared the following opinion: "I don't really think i would change anything about blended learning i like everything it deos [does]."

Assignments. Sixteen students commented on changes they could make to the actual assignments or to the software being utilized during the Station Rotation blended learning model. Some of these students offered suggestions to change the way their digital content, Zearn, interacted with them. For instance, one student suggested that when completing a particular component in the program, they should earn 20 stars, or "on the tower of power so when you get it rong, it will tell you the answer. Like it shows you, but it doesn't tell you." Other students suggested changing the book study or the way they completed their spelling or main idea and details work. A few students also stated that there should not be any blue books, which were their math workbooks designed to help them practice the skills they were learning in their lessons.

Difficulty. Several students felt that a positive change for blended learning would be to change the difficulty of the assignments. Eight of the eleven students who mentioned this felt that pieces of the blended learning were too difficult and should be

simplified. They suggested things like "I whould change like the hard ansews. And make it easy," and "sometimes [Zearn] doesn't make it easy so I will change that to help students under stand." The other three students had quite the opposite opinion. They felt the assignments were too simple, and they needed to be changed to be more challenging. Some of the students said, "I would change by give harder questions," and "If I could make an improvement on micky mouse math and I would change it to be a little bit chalinging er because I nou I rilly quick.[challenging-er because I know it really quick.]"

Question 7: Advice. The seventh question asked of the students was what advice would you give to a student new to blended learning? The students had multiple bits of advice to give to students new to blended learning. There were primarily four different themes that came out of these bits of advice: blended learning is fun, that the work is difficult, how to get help in general, and to never give up and always try your best.

Fun. Blended learning is fun! Twenty-one times students wanted to share this advice with students new to blended learning. The students' enthusiasm was evident in their comments. On student shared, "Once you get into it its so fun! once you get into it its really fun!" Another student said, "What i would say is hi we do something called blended learning, and we do it a lot and it is really fun i think you will like it." A couple of students shared that they enjoyed learning using the blended learning model. Their comments were, "Some advice i would give her is That blended learning is a fun way to learn," and "The advice i would give is That blended learning is a fun learning program." Another student mentioned the computer aspect of blended learning by saying, "The advice I would give to a student [new] to blended learning is it is fun because you get to

go on compoters." More simply put, a student said, "That blended learning is the beast [best]!"

Difficult work. The second theme that came out of this question was the need to advise students new to blended learning that there is a lot of difficult work involved with this model of learning. Fifteen comments reflected this aspect of the Station Rotation model. One student stated the sentiment very clearly, "advice I would give to a student new to blended learning is sometimes it can be hard." Another student shared, "I wold tell them that it wold get hordr and hordr." While another student shared it this way, "tower of power can be easy but not all the time it can be triky." The students simply stated that work during the Station Rotation blended learning model can be difficult for a learner. The following comment by one of the students shared this mindset about blended learning: "… it is not always going to be easy … sometimes it is going to be hard you will strugle."

Even though the students shared that blended learning would be difficult for new learners, they also showed a positive attitude about the learning model. Some of the students mentioned the positives about the blended learning model right along with the idea that it can be difficult. For example, "I will tell them it is hard and it's fun and you get to do cool stuff." Another student, when talking about blended learning, said "that it is fun and hard."

Other students, while pointing out that blended learning can be difficult, also indicated that it could get easier the more someone does it. The following statements share this sentiment: "I would give them it is hard at first but as you lern more it get's eaiser." Another student stated, "The advice I would give them is that blended learning is

hard at the begging [beginning] but when you understand more it's going to be a piece of cake." The thoughts of another student even included the idea of blended learning being fun by saying, "once you get smater blended learning gets funer!"

Seek help. The next most popular theme that came out of the advice the students wanted to share really spoke to how the students should get help while they were working in the blended learning model. Thirteen students shared general advice around where the students could find help within the classroom. Sometimes, the students suggested that they themselves could help the students by introducing them to blended learning or by helping them out with a few questions on the computer before the new students were expected to go solo. One student shared it this way: "What I wood do if a new student did not now how to do blended learning I wood help them." Another student shared, "The advice I would give a nother student that is knew [new] to blended learning is I tell them what It is furst [first] befor I let them get on the computers." An additional student said, "The advice I would give to a student new to blended learning is to help them on one or two lessons and then let the [them]do it all by them selfs."

Other students spoke to how the teachers could help them while they were participating in a blended learning model. One student decided it was important to point out that sometimes "teachers will not always be there to help you when you have a test sometimes they will sometimes They won't be there to help you." However, according to a different student, it was important to ask a teacher: "if you ar stuch on sum ting ond lened lrning ask the techr [if you are stuck on something on blended learning, ask the teacher]." Another student shared how the teacher may introduce a new student to

blended learning: “hi. I am your teacher and this is blended learning. do your best. you can rase [raise] your hand for halp [help] any time.”

Never give up; Always try your best. The fourth major theme that was presented in this question shared the sentiments of eleven students. These students wanted to encourage new blended learners to never give up and to always try their best. The students felt it was important to always try their best while they were working on the various assignments that come with blended learning. One student gave the following advice: “you Should never spen [spend] your time on play around and work.” Other students simply encouraged the new learners to give blended learning a try by saying,” try your best have fun its relly esay,” and “… they should try it because it awesome!” Several students just laid it out for the new learners by saying things like “never stop trying and do your best at it,” “my advis would be to not give up,” and “just try your best.” Overall, the underlying theme was about encouraging new blended learners to simply keep working at blended learning, to do their best, and to never give up.

Summary. During the student questionnaires, 31 students shared their thoughts about various aspects of blended learning. They answered questions about what they liked the most about blended learning and what they liked the least about blended learning. They also shared the easiest and hardest parts of the blended learning model and shared whether they felt they learned more or less while participating in a blended learning environment. Further questioning provided insights into what the students wanted to change about the Station Rotation blended learning model and advice they would give to learners who were just entering into the blended learning world.

Reseach Question 2 Summary

The second research question was "What are students' perceptions of the Station Rotation blended learning model in an elementary classroom?" The two data sources that were used to answer the second research question, student focus group interveiws and the student questionnaires, revealed several similarities in the students' perspectives of the Station Rotation model in their classroom. Figure 10 visually shows the similar themes that came out of the data. The top five plus signs indicate themes that the students perceived as positive aspects of the Station Rotation blended learning model. The bottom two octagons were perceived as negative aspects of the model.

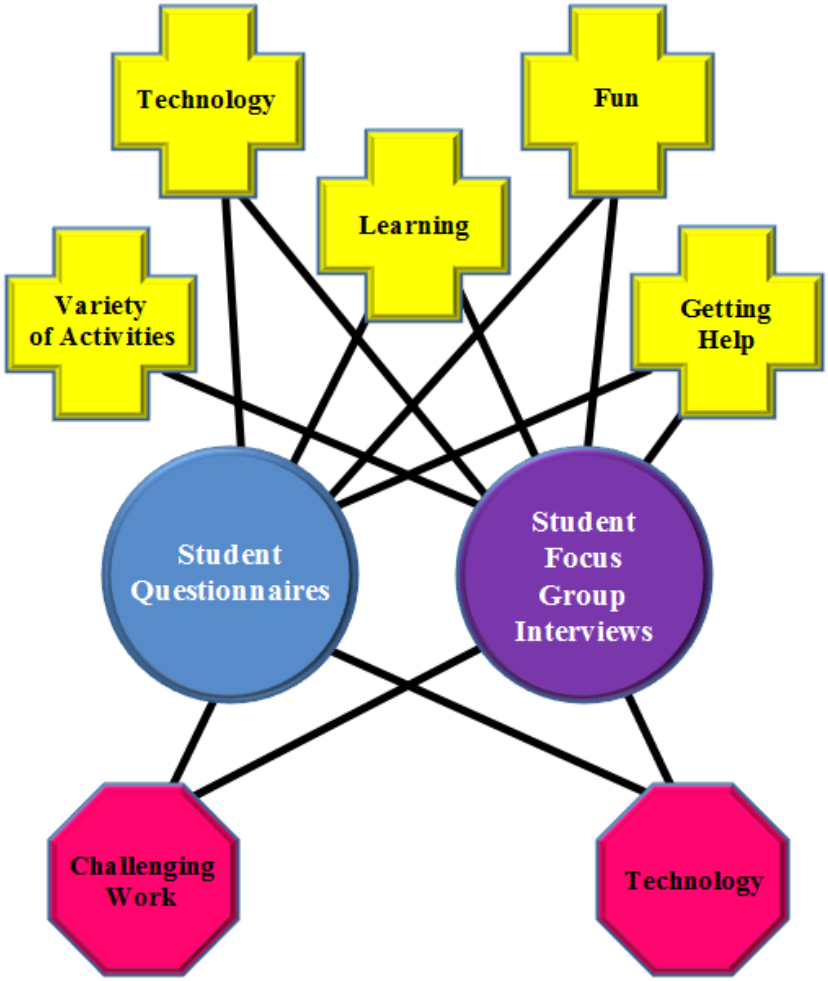

Figure 10. Visual Summary of Research Question 2

CHAPTER V

DISCUSSIONS AND CONCLUSIONS

Introduction

The purpose of this study was to take a look at what happens within an elementary classroom during the implementation of a Station Rotation blended learning model and to determine how students perceive this model as they participate in it. In this chapter, I discuss the themes that were found in the data. I also include contributions to the educational field, limitations, suggestions for future research, recommendations, and final reflections on the study.

Discussion of Themes

Station Rotation Blended Learning Model Implementation

The first research question was approached through three data sources: Teacher Questionnaire, Teacher/Researcher Journal, and Observations. Throughout these sources, nine themes presented themselves to help in the understanding of what happens in an elementary classroom during a Station Rotation blended learning model: (1) Managing Learning Materials/Work Spaces, (2) Routines, (3) Classroom Management, (4) Technology, (5) Teacher's Role, (6) Logistics of Blended Learning, (7) Students' Actions, (8) Instructional Considerations, and (9) Interruptions to Learning (see Figure 9 in Chapter 4). These themes are not listed in any specific order, as each of the nine themes is important in painting a full picture of what occurs within the classroom during a Station Rotation blended learning model implementation.

Managing learning materials/work spaces. The first theme was managing learning materials and work spaces. Multiple times throughout the study, the data pointed to the importance of proactively managing the items the students would use to learn and the space that they would be located in during the Station Rotation model.

Learning materials. When implementing the Station Rotation model, I had to have a plan as to how the students would organize their learning materials to prevent lost time once the stations were in progress. Specifically, I explained about the successful use of a Blended Learning Notebook that housed the students' notes pages for their digital content as well as a card that contained all of their login information. I also shared how I managed the digital devices by creating a charging station that allowed for easy access to the laptops. In addition to this, I explained how the students were to obtain their computers, their independent work materials, and their group work materials in preparation for working in the blended model. All of these items were also observed during the observational portion of the study.

The care I took to manage these items speaks to the importance of organizing these materials. Without the management of these items, I would have lost valuable learning and teaching time with my students during the short 90 minute math block. This was emphasized even more when I discussed implementing the Station Rotation model during my targeted instruction block because I only had 40 minutes to work with students during that subject.

Student work space. In addition to the actual learning materials the students had to access, the space they had to work in needed special consideration. In the data, it was shared how I had to be flexible with the space the students used during their Station

Rotation implementation. At times, I asked the students to work closely in groups, while at other times an independent island was a more conducive working environment for individuals. I also played around with how many students were working in a group at one given time and closely monitored whether or not the students were completing their work.

As with managing the materials, managing the space within the classroom is a very important point to consider. If the students are not able to work in a space that helps them be productive with their assignments, there is no reason to ask them to complete the assignments. From the study, it was shown that attention to the way the students' work space was set up reaped the benefit of the students being able to be productive, independent workers. Without this, a lot of time would have been lost in redirecting students, and it would not have been spent in learning or teaching.

Routines. It was very apparent that routines were an extremely important portion of the implementation of the Station Rotation blended learning model in the classroom. Throughout the observations, questionnaire, and journals, the idea of routines was mentioned over and over. Routines were developed around every aspect of the Station Rotation model. Some of these areas included how to get out materials, how to move from one station to the next, what it looked like and sounded like to be in each of the stations, how to solve conflicts, and how to get help from the other students or from me. Routines appeared to be the backbone of the Station Rotation model and allowed the students and teacher to understand what was expected. The routines were also what helped to keep the stations running smoothly. Without the routines, students would not understand how to move between their different stations or how to get the materials for

their assignments. I would have lost valuable time trying to manage the students and would have had to constantly direct the movements of each student. By having the routines in place, the students knew how to move and how to get their materials. Therefore, I only had to give reminders to students who needed them but not to the entire class every time they moved between stations. It would be very beneficial for instructors considering implementing a blended learning model within their classrooms to take a close look at the types of routines that were implemented in this study. Those instructors would then want to look at their own classroom and decide which of these routines or which new routines would fit the needs of their students.

Classroom management. Another theme that came out of the three data sources for the first research question was the importance of classroom management. As was mentioned in the previous section, routines are a very large part of running a successful Station Rotation model. While routines help students understand the basics of what is expected of them, there will still be times that the students are off task and need to be redirected. These are the times when good classroom management comes into play.

The data showed that I demonstrated this during each of the rotations. I had to be very active in "working the room" which means I was continually going around the room and checking in with the students. I would make sure my students were being productive and were on task. At times, when the students were off task, I would redirect them with a question or a prompt to continue the assigned tasks. If this still did not help the students get back on task, I then moved the students to different locations in the room to work. Babb et al.(2014) suggested that "encouraging active learning" was important at the university level in that it aided both with the students' satisfaction with their courses and

with learning the content (p. 202). In addition, Chandra and Fisher (2009) found a similar theme resulted when using web-based learning with high school students and the students reported being satisfied with their learning. They felt that the work helped them stay focused and that the digital content held their interest. While these two examples are with students at a higher level of education with more experience in the classroom, the encouragement of active learning in the classroom is equally important at the elementary level. Students at the elementary level need help experiencing this same learning through the guidance of a teacher who is actively working the room to assure students are on task and learning. In this type of learning environment, the students will be able to learn their content while feeling satisfied with what they are learning just as the older students demonstrated in the above mentioned studies.

Another piece of classroom management was looking at the quality of the work the students were completing by making sure they were completing the assignments to the best of their ability and were not just rushing through the assignments. I also monitored the students' work to assure that they were completing the assignments that were assigned. If they were not being productive in this manner, I would help the students get back on task by reteaching a concept, reminding a student of the task at hand, or providing a separate location for that student to work in where the student could focus on his/her work better. This idea was also similar to the information shared by Babb et al. (2014). At the university level, the students are expected to manage their own time well with the teachers coming alongside them when they need support in knowing how to do this. At the high school level, students were positive about how the technology allowed them to work at their own pace and how it held their attention (Chandra &

Fisher, 2009). This would encourage the students to stay on task and work on their assignments. At the elementary level, students are just beginning to learn how to manage their time and to use their time wisely, so it is part of the teacher's role to guide them in learning this skill.

As with each of the nine themes that were revealed within this study, classroom management is one that helps keep the blended classrooms running smoothly. In any classroom, there is the need for good classroom management if there is to be good instruction taking place. It only takes one student to rob the rest of the classroom of their learning. A positive aspect of the Station Rotation model is that when the students are working in three rotations, many times an off-task student will only interrupt the other students in the same station as the individual who is off-task. This is a large improvement from traditional classrooms where the student would typically interrupt the learning of the entire classroom. The fewer number of off task students can be easier for a teacher to redirect than the alternative of an entire classroom being off task.

Technology. As would be expected with a study that is centered around using technology in the classroom to educate students, technology was also a theme that came out. Surprisingly, however, technology did not receive a large amount of emphasis from the participants in this study. It was looked at as having both positive and negative aspects.

Positives. One thing that went well with the technology was the way that the technology was stored and charged. I was very pleased with the charging dock that I put together. This dock allowed me to charge all of the devices at one time, allowed the students the opportunity to care for the devices by removing and returning the devices,

and provided an organized way to store the devices. The excitement I had was magnified because the previous year, I did not have a charging dock. I had to just stack the devices and rotate which ones were being charged at any given time. I found my charging dock simplified the use of the devices in the classroom and saved a lot of extra work on my part. In looking at this aspect of the data, this may be a moot point for some individuals because they might have a commercially built charging dock which does the same thing. For individuals without a dock, however, this may be a time saving tip that can ease some of the work that comes along with running a Station Rotation model.

Another positive aspect of the technology is that it provided me with a way of providing content to the students while reducing the size of my groups. By reducing the size of the groups, I was able to focus my instruction and provide the differentiation that met the students where they needed the help (Bagby, 2014; Ololube, 2011; Walne, 2012). An added bonus of the smaller groups was a reduction in off task behaviors because the students were working in smaller groups and therefore had fewer peers near them to get them off task. It reduced the audience for those students who wanted to act out simply to get the reaction of their peers and aided them in staying more focused.

These positive aspects are both beneficial points to consider when implementing a Station Rotation model in the classroom because they can both make teaching a group of students easier. The ease of charging the devices can simplify the preparation of the needed learning materials on the teacher's end, and the fewer students in a group can assist the teacher in reaching the academic needs of the students in the classroom while reducing the need for interruptions due to off task behaviors.

Negatives. During the study, I mentioned that there were some negatives around the technology, as well as the positives. Negatives such as not having the desired amount of devices in the classroom, not knowing the digital content, and having students who were not accustomed to being independent learners on technology all presented challenges throughout the study. These negatives, however, are not enough reason to not implement a Station Rotation model in the classroom. These negatives simply require some thought on the teacher's part and some learning on the students' parts.

Number of devices. The number of devices is a component of blended learning that is often brought up when teachers are first looking at trying to implement a blended model in their classroom. In an ideal world, all of the students would have their own device to use whenever it was needed. In many instance in the real world, this is simply not realistic. At times there is a lack of technology available to fully implement the blended learning models (Kumi-Yeboah & Smith, 2014; Watson et al., 2014). As teachers begin to implement a Station Rotation model in their classroom, they need to look at how many devices they will have access to and then break their classroom into the appropriate number of stations (Education Elements, 2013; Reiser & Butzin, 1998; Staker & Horn, 2012; Walne, 2012). In this study, I had one device for every three students, so I broke the class into three smaller groups. This is definitely an area in which teachers must be flexible and sometimes think outside of the box. If there are not enough devices to do a three stations rotation, maybe there is enough for a four stations rotation.

Knowing the digital content. Not knowing the digital content can be a stressful point for teachers. In the study, I had to spend time learning new digital content and then helping the students learn it, as well. While it is not easy to learn new content and new

digital platforms, it is acceptable to realize that even teachers need time to learn the new information. As students have questions about the content, the teacher can admit that the question the student has is one that the teacher does not have an answer to yet, but that it is one that will be investigated and shared once it is known. This is a good example to the students to show them that it is okay to not know something as long as they are willing to continue to figure it out.

Not independent learners. Working with students who are not accustomed to being independent learners can be a common concern of teachers who are asking their students to learn some of their content in a digital manner. Students who have not had prior experience in working with digital content will find the lack of teacher instruction challenging. Students are used to having the teachers spoon feed the content to them. Many teachers spend most of their days in front of their group of students teaching the content. In this blended learning model, the content is delivered by both the teachers and through digital content. Students learn this content while participating in their various stations. Students have to adjust how they are learning their content, and regardless of their ages, some students will simply not do the work they need to do in order to be successful in their learning (Bagby, 2014; Butrymowicz, 2012; Fulton, 2012). This lack of independence can be more common in younger students who have not yet learned how to be independent learners (Kumi-Yeboah & Smith, 2014; Russo, 2001). Not being able to work independently is not a reason to discontinue using technology with younger students, however. These younger students simply need more support and scaffolding to assure that they are successful in their learning. Kumi-Yeboah and Smith (2014) and Scott (2003) agree with the need to support learners as they develop the necessary skills

to be successful independent learners. As the students begin to understand the digital content environment better and as they practice being independent learners, they become more successful in their learning.

Teacher's role. Another theme that came out in the study is that teachers are an integral part of the blended classroom. So often a concern that is voiced by individuals who are not familiar with blended learning is that teachers in a blended learning classroom will not be needed and that they will be slowly replaced by the technology. From the results of this study, quite the opposite could be said. I expressed that there are many times during a Station Rotation implementation that teacher input is needed. These areas ranged from the planning of each station, to the groupings of which individuals are in each group, to classroom management throughout the actual rotations, to the whole group instruction and clarification in a smaller group setting, and even to the one-on-one lessons that I taught as the students were working through the rotations. I was an active part of the classroom instruction prior to each rotation and throughout the rotations.

My role as the teacher did look different than would have been seen in the past as was mentioned in previous studies and books on blended learning (Bergmann & Sams, 2012; Harasim, 2012; Horn & Staker, 2015; Johnson, 2012). In this study, my role as the teacher has begun to change from when I taught in a traditional classroom; I had to step off of the stage. My role morphed from one in which I lectured to the class and in which I was in the spotlight most of the time to one in which I managed and guided learning within the classroom. No longer am I always the center of attention; the children and their learning needs have begun to take that role. Irelend et al. (2008) shared that

educators will still be needed in the classroom, and this study strongly reinforces that idea.

Logistics of blended learning. The logistics of implementing a Station Rotation blended learning model in the classroom was another theme that continually occurred throughout the study. In the teacher questionnaire, the teacher/researcher journal, and during the observations, the logistics of how the stations actually occurred could be seen and learned about. Points that were present included how to set up the stations, the importance of timing, the consistency of routines while implementing the stations, how to get materials for each station, the work expectations within the stations, the arrangement of the work stations, the types of stations, the variety of assignments that occurred within the stations, and the mini-lessons I taught. Staker and Horn (2012) and Walne (2012) shared general information about the Station Rotation model suggesting the number of stations and the types of stations which may be present. They did not, however, include the specifics of how to run each of the stations, such as how to gather and return the materials, or how to set up work expectations.

These logistics of blended learning are crucial to having a classroom that runs smoothly during the implementation of the blended learning model. Without these logistics, the stations can fall apart and learning will be stopped. As teachers become more comfortable with implementing this model in the classroom, the logistics become easier to conduct.

At the start of implementation, the number of logistics that need to be addressed can be overwhelming. It is very important to address the many components of running a Station Rotation model in a classroom because this is what will help the stations run

smoothly. While these considerations are numerous, it is very clear that thoughtful planning prior to the implementation is crucial to a successful learning experience for the students.

Students' actions. Another theme that surfaced from the data is a summary of the actions the students performed during a Station Rotation blended learning model implementation. Students were asked to work independently and collaboratively. Staker and Horn (2012) and Kumi-Yeboah and Smith (2014) also shared similar ways for students to work. Additionally, Babb et al. (2014) mentioned that at the university level collaboration between the students in various manners including face-to-face and online interactions were an important part of blended learning.

Students were also asked to interact with me. This is another place where Babb et al. (2014) agree that this is important to the students' learning. In addition to this, the students were asked to access digital content to learn material. Sometimes students provided support for their peers in the manner of knowing how to complete an assignment, where to gather materials, or how to solve an issue they had with technology. These different roles provided the students many different ways to learn the curriculum that was being presented to them. This variety was good for students in my class because each student has a unique way of learning. Providing the variety of presentation modes aided me in meeting the different needs of all of the students in the classroom.

Another benefit of the variety of roles that the students were being asked to perform was that all of those different roles required students to be flexible in their learning and in their interactions with their peers. Those actions resemble many of the 21st Century Skills that students are now being asked to demonstrate as they move into

the work force (Assessment & Teaching of 21st Century Skills, 2014; Partnership for 21st Century Skills, 2009, 2011a, 2011b; Reynolds, 2011; Skills at Education Connection, 2015). Students who are participating in the Station Rotation blended learning model are gaining the skills they will need for the future.

Instructional considerations. Teachers are also shown to have a great deal of instructional considerations when implementing the Station Rotation blended learning model. Considerations are made in both the structure of the model and in the content presented during the model. Teachers have to consider the number of stations to implement within their classroom. They have to decide if the lessons are better taught as a whole group, as a small group, in a one-on-one setting, or through digital content. Within the stations, the teachers also have to decide what would be the best activities for the students to do in order to assure that they learn the content. In this study, I recorded my thinking around how well the activities were going for the students. I commented on those things that went well and those things that did not go so well. I was continually adjusting and modifying the work I was having the students do in order to help them learn in the best way possible. These results are supported by Bagby (2014) and Bergmann and Sams (2012) who stated that as teachers begin to implement a blended learning model, they need to be reflective about what they do.

During the Station Rotation model, one of the benefits is that there is the opportunity to consider different ways of instructing students. These instructional considerations can be flexed and tweaked to meet the needs of the current group of students who are in the classroom. Each year the group of students will be a different

mix that requires different assignments or different ways of learning. Blended learning is a tool to help meet those differences.

Interruptions to learning. The final theme that was revealed in this portion of the study was that there will be interruptions to learning from time to time. For educators who have been in the classroom for any length of time, this theme should not come as a surprise, and while it is not a theme that resulted from a large amount of data, it was present in all three of the data sources.

Interruptions to learning is a theme that educators simply need to be aware of because interruptions do happen and they can affect how the teacher and the students continue teaching and learning during the stations rotations. The interruptions to learning may be as small as a phone call or the delivery of cupcakes for a party. They could also be as large as frequent visits from an administrator to deal with some behavior issues or several students being absent from the classroom due to a choir concert. It is possible for students to continue their learning even when interruptions occur. During this study, several interruptions happened during the rotation blocks, and I explained or demonstrated how the stations could just continue on as though nothing had happened. Implementing a Station Rotation blended learning model in the classroom will not always go as planned, but the model is flexible enough that students can still be productive learners even when adjustments need to be made to the stations or when students are missing from a group.

Students' Perceptions of the Station Rotation Blended Learning Model

The second research question was approached through two data sources: Student Focus Group Interviews and Student Questionnaires. Throughout these two sources

seven themes presented themselves; five of which are considered positive and two of which are considered negative. The positive themes are the following: (1) Content, (2) Technology, (3) Learning, (4) Fun, and (5) Getting Help. The two negative themes are (1) Challenging Work and (2) Technology (see Figure 10 in Chapter 4). These themes share the students' perspectives of the Station Rotation blended learning model. These themes are not listed in any specific order, as each of the seven themes helps to understand what students think about a Station Rotation blended learning model implementation.

Positive themes. The following are the five themes that the students felt were positive aspects of the Station Rotation blended learning model: content, technology, learning, fun, and getting help. Through the students' comments during the student focus group interviews and their written responses on the student questionnaires, the perceptions of this learning model generally seemed to be very positive. These themes are strong indicators that the Station Rotation blended learning model would be well received with other students in other buildings or grade levels, as well.

Variety of activities. Ortega Gil and Arcos García (2011) mentioned that the Station Rotation blended learning model provides an opportunity to multiply the students' learning through the use of various types of learning opportunities. Kumi-Yeboah and Smith (2014) agreed with Ortega Gil and Arcos García (2011) by emphasizing the need for a wide variety of instructional methods to be used with students during the blended learning instruction. The students in this study indicated that they would agree with these statements when they voiced that they really enjoyed the way the content was presented to them. The variety of learning activities was engaging and was a

positive point in the Station Rotations model. The importance of this engagement was also reinforced by Dziuban et al. (2011) as being a benefit that came from the implementation of blended learning. Reiser and Butzin (1998) would echo this concept as they also found that students had a higher engagement rate in the class when implementing a blended learning model versus a traditional model of learning. The enthusiasm shown by the students in this study concerning the Station Rotation blended learning model was reflected in their willingness to complete the learning activities. They demonstrated a level of engagement in the activities they were completing, and the result was more learning for the students. This engagement and enthusiasm also helped with classroom management because the students were engaged in their learning and were not as likely to be off task.

The Variety of Activities theme presents strong data that support the idea that the Station Rotation blended learning model has a positive effect on the students. It is something the students look forward to and are willing to try. Student engagement is a good argument for why the Station Rotation blended learning model is a positive method of presenting content to students.

Technology. Many students also commented on how they enjoyed using the technology during the Station Rotation model. This bit of the data was not surprising. With today's digital natives, technology is what many of them already know (Gu et al., 2013; Prensky, 2001). They are very comfortable with technology at home, so extending this into the classroom simply opens another realm to help them learn while at school.

For the students who are caught in the digital divide (Mossberger et al., 2008) and who do not typically have access to technology at home, blended learning provides an

opportunity to level the playing field a little in that they get to experience technology. By providing a Station Rotation model, these students can learn about technology through meaningful activities. Kumi-Yeboah and Smith (2014) would agree with this in that they felt it was important to provide the technological support in an environment that was conducive to learning. The students can become comfortable with this tool in a safe environment where it is okay to make mistakes and to learn from those mistakes. When computers are an important part of their instruction, students will be enabled to use computers as a tool for their learning (Scott, 2003). They will learn necessary skills that will help them as they mature and as they enter the work force.

Learning. Another positive that came out of this portion of the data is that a majority of the students felt like they learned more during a Station Rotation model than during a traditional class period. The students attributed some of this to being able to do more things which is similar to the first positive point of having a variety of activities to learn from. They also felt that technology could support them better than teachers could at times. This is an interesting thought, but one that would not be surprising coming from the younger learners in this study and the way technology is so deeply embedded into their lives outside of school. The students in this study have learned to use technology to learn a lot of things outside of the school environment. The ways students and people in general acquire knowledge have definitely changed in the past 15-20 years (Harasim, 2012). For example, now when people need to know how to do something, they just "Google" it. This technology is what these students have grown up with, so it is not surprising to learn that they feel technology can support their education.

Fun. The Station Rotation blended learning model was also reported as being fun for students. During the Station Rotation model, students were exposed to many different learning activities through many different modes. Students perceived these activities as being entertaining. This is a positive for the students and the teachers. If students find their work entertaining and fun, then they will be more likely to complete the work. The teacher will not have to battle students who are not interested in completing an assignment because they find it dull.

Getting help. The final positive theme is that there were ways for the students to get the help they needed while they were participating in the Station Rotation blended learning model. The students in the study advised that students experiencing blended learning should seek out help when they need it. The students in the study found they had several ways to get the help they needed. They were able to discuss with partners in their collaborative groups when they did not understand a concept. In Lin, Wong, and Shao's study (2012), the middle school students also reported that when they were using technology to aid their learning in the classroom, they would help their peers and they felt that their collaborative skills helped in completing the learning activities.

The students in this study also pointed out that the computer programs helped them figure out problems. Some students felt this support was sometimes more than what they received during a traditional class. Being the teacher in the classroom, I also provided a third level of support for the students creating many opportunities for the students to get their questions answered and clarified. This teacher component is a piece that has been demonstrated at the university level, as well, as being a crucial component to the way students perceive their coursework. Babb et al. (2014) said it well.

> Blended students, who felt that their professor was available to them, that they were able to contact their professor easily, and that they were encouraged to ask questions that their professor then responded to, were more likely to positively perceive their performance in the course, as well as be more satisfied with the course. (p.201)

Even though the students at the university level were not always in class with their professor during their classwork as is seen at the elementary level due to a different model of blended learning, the importance of reaching out to get the help that is needed is still very important.

In looking at implementing this model in a classroom, this theme is very beneficial for students. If students recognize that they have supports in place during this model, they will be more willing to take the risks needed to learn the material. This creates a safe learning environment in which students are able to learn.

Negative themes. The following are two themes that were negative aspects of the blended learning model as perceived by the students participating in this study: challenging work and technology. These two themes are aspects that could easily be seen in other educational settings outside of this study. Therefore, they serve to remind future blended educators that when implementing a blended learning model that is primarily perceived as a positive learning experience for students, there still may be a few areas that need to be supported.

Challenging work. One of the negative themes that emerged from students in this study was how challenging the work was. The challenges that were mentioned by the students were not related to the Station Rotation blended learning model itself, but rather to the actual curriculum that they were being asked to learn. Their district recently moved to a more rigorous set of math standards and adopted a more demanding math

curriculum that was stretching the thinking of many of the students (Colorado Department of Education, 2014). The students practiced a lot of these skills in their blue books (math workbooks). The students had not experienced this level of rigor in previous grade levels, so the work was very difficult for many of them because many gaps existed in their understanding of how to solve the problems presented to them in their workbooks.

The results of this negative theme were students who were not on task when they were working on their blue books in comparison to when they were at the other stations. The work was too hard for several of the students, so they would get off task to avoid the work. This theme brings the awareness that while the work in a blended learning model has the potential to be very rigorous, it is still important to provide enough support to the students to help them be successful in their learning.

Technology. The other negative theme that came out was around the idea of technology. Technology was also mentioned in the positive side of this question because the students did enjoy using the technology to learn. There were times, however, when the computer would freeze up, and the students were not able to complete their work. Other times, the students commented that the computers could not keep up with the pacing that they wanted to set. The students would end up just sitting there while the computer caught up to what they had completed. These few challenges did not, however, seem to bring down the excitement of the students around using the computers to learn.

This negative theme is a reminder that while technology can be a positive tool for students to utilize in their learning, there are still times that it may not perform as desired, and that is okay. Many students seem to have grasped this idea already. They just accept

the technology for what it is: a tool to learn by that may provide challenges from time to time. For those students who do not yet understand this, a patient teacher who does not stress about the challenges that are sometimes present can guide the students to this understanding. Devices may not work properly from time to time and that is simply the nature of technology.

Contributions to the Educational Field

The first research question in this study, "What happens within an elementary classroom as a Station Rotation blended learning model is implemented?" contributes to the educational field by providing educators who are interested in exploring and implementing a Station Rotation blended learning model within their own classroom an inside look at what actually occurs in the classroom during an implementation. Bergmann and Sams (2012), Clayton Christensen Institute for Disruptive Innovation (2015), and Staker and Horn (2012) reported the effectiveness and the basic design of this model, however, few researchers really dive into the heart of what happens both in the mind of the teacher and in the occurrences within the classroom In this study, nine key components or themes were discovered and discussed: Managing Learning Materials/Work Spaces, Routines, Classroom Management, Technology, Teacher's Role, Logistics of Blended Learning, Students' Actions, Instructional Considerations, and Interruptions to Learning. These nine themes provide educators with a way to dissect what happens in the blended classroom and to analyze it. The educators then have the opportunity to apply what they have learned to their own classrooms.

These nine themes can seem like a great deal of work to educators new to this model of teaching, but when the themes are deeply analyzed, it is simple to see that these

are nine areas that are simply there to assure the successful learning on the part of students, which is what teaching is really about. If attention is paid to the nine areas, the model naturally begins to unfold. As the teacher becomes more familiar with these nine areas and as the pieces fall into place, the workload appears to become lighter because the nine themes begin to take care of the happenings within the classroom. This makes the implementation of the Station Rotation blended learning model easier and allows for the stations to run smoother. Learning a new model does take time, however, so the teacher needs to be patient during that learning process. In addition to this, teachers will want to revisit the nine themes each time they begin working with new groups of students. Each group of students has a personality of its own, and the strategies and routines that worked with one group may not work with the next. Initially, this model may take some time to implement on the teacher's part, but the learning that students demonstrate in the end will make it all worthwhile.

The second research question in this study, "What are students' perceptions of the Station Rotation blended learning model in an elementary classroom?" contributes to the educational field by allowing educators to look into the minds of third graders who were experiencing blended learning for the first time. It shares both the positive and the negative aspects of the Station Rotation blended learning model as perceived by the students. Other studies have looked at the perspectives of students through the lens of tools that provide a scale to rate items which were determined by the researcher such as the studies by Babb et al. (2014) and Ben-David Kolikant (2009). This study is different in that the students were asked to respond to open ended questions. The students provided their thoughts and their opinions which gave a fresh look at what they thought

and felt about blended learning. This approach to gaining the perspective of students was echoed in Chandra and Fisher's study (2009) in which they asked high school students to respond to open ended questions in order to "[create] opportunities for investigation of the beliefs and opinions of the participants" (p. 36). The insights gained in this study are helpful to educators considering this specific blended learning model because the study provides an honest look at how elementary students may perceive this way of learning. It can also prepare educators for possible student reactions and responses they may encounter within their own classrooms and will give the educators an opportunity to think through the pieces before introducing it to their own classrooms.

Limitations

Within this study there were a couple of limitations as would be expected in a study such as this. These limitations will aid readers in determining whether this study can be generalized to their own learning environments (Creswell, 2008).

The first limitation of this study was the small quantity of students who were able to participate in the study. This study spanned one semester with only those students who were taught by me as the teacher. These students were primarily from my homeroom classroom along with a small number of individuals who were assigned to my literacy and targeted instruction groups. The small number of students represents a small sampling of third graders which is not able to represent all third graders everywhere. Additionally, these students were all pulled from the same school, so the data are representative of students from a low socio-economic, high poverty school. The perspectives of students from a high socio-economic school may vary from those in this study.

The second limitation was a struggle on some of the students' part to perform at the independent level expected from individuals participating in a Station Rotation blended learning environment. The Station Rotation blended learning model expected the students to take an even more active role in their learning than they had been expected to do so in the traditional classroom (Bergmann & Sams, 2012; Khan, 2012). Additionally, they were required to stay on task while working independently within the classroom (Bergmann & Sams, 2012). This switch in responsibility was a stretch for some of the learners who were used to traditional forms of teaching and who were not ready to work independently. Kumi-Yeboah and Smith (2014) and Russo (2001) shared that this can be common in younger learners due to the fact that they have not yet learned how to work independently. With this limitation, explicit teaching was needed in order to show and teach some of the students how to succeed at this new level and type of learning. This limitation may be less of a concern with a different population of students.

Suggestions for Future Research

New research topics may come about as a result of the limitations of previous studies (Creswell, 2008). One suggestion for a future study would be to extend this study to include a variety of grade levels within the elementary school level. Third grade was a reasonable grade level to select for this study due to it being in the middle of the elementary school progression of grades. In other words, kindergarten, first, and second grades come before the third grade level. Fourth and fifth grades come after it. With this, it would be feasible to extend the learnings from the data collected in this study to either to a lower or a higher grade level without much difficulty. The new study, however, could invite students from multiple grades, higher and lower, to share their

perspectives and to invite teachers from those grade levels to provide their thinking around the Station Rotation blended learning model.

Another suggestion for a study would be to gather information around this blended learning phenomenon across schools. This study would need to include schools from different socioeconomic statuses to provide an insight around blended learning from students with a variety of backgrounds. The students in the current study come from a similar background and socioeconomic standing which therefore provided a more narrowed look at this blended learning model.

A third suggestion for a study would be to look at the various different blended learning models through the eyes of students with similar backgrounds. This study would focus on learning which of the models meets the needs of the specific population best. It would determine which model is the most positively received and which model promotes the largest academic gains for the chosen population.

With any of the previous research study suggestions, it would be recommended that the study be elongated. Ideally, the study would look at the responses of the participants at the beginning of a school year, at a midpoint during the school year, and at the very end of the school year. This would enable the researcher to look beyond the initial excitement of beginning a new model when the novelty of what the students are doing really drives their ambition and their opinions. By looking at the middle of the year, the researcher will begin to see what the students really feel about the model after the newness wears off and as they start to work past the learning curve that comes whenever a new curriculum or model is introduced. The end of the year will provide the researcher with information from students who are accustomed to the model and who are

no longer learning how to learn through the model. At that point of the year, they will be simply be learning. These three views will be able to provide a rounded look at the students as they develop their blended learning skills.

Recommendations and Final Reflections

When beginning a blended learning model in any classroom, there are many things to consider and many things to learn. This was the case in this study as well. Looking back on the study, there were five lessons that I learned that are worthy of sharing with future blended educators.

First off, blended educators need to give themselves permission to make mistakes and to learn with their students. Educators need to understand that they will not know how to do everything when they begin implementing a blended learning model and that is okay. They may struggle with the new curriculum, how to set up the stations, or when to try a new type of learning station. There will be times when they need to simply stop, reflect on what they are doing, try something new, and understand that it will get easier as time goes on.

The second lesson that blended educators need is a lesson in being flexible. It is important to begin blended learning by creating a plan or an understanding of what they would ideally like their classrooms to look like. Then, they need to be willing to change that plan when it does not quite fit what their students need. As they get to know their students, it is important to be flexible and to adjust. Sometimes that adjustment might be long term and sometimes it might simply be that the students need something else for that day. It is all about being flexible and meeting the needs of the students.

A third lesson that I learned is that implementing a blended model in the classroom does not mean that every lesson of every subject of every day has to be blended. When beginning blended learning, it is important to start small. Begin by selecting one subject, and use this subject to introduce blended learning to the students. As the teacher and the students become comfortable with blended learning, then introduce the model into another subject area. It is interesting that when introducing blended learning into another subject, it is not surprising for the students to act as though they have never heard of blended learning before. It will take a little patience on the educator's part to remind the students that they have indeed done blended learning before and that they are simply using the same model with a different subject.

Along with starting small by only blending one subject at first, a fourth lesson I learned is that it is okay to teach a whole class lesson sometimes. There will be moments when every student in the class needs the same information, or it may feel like every student the teacher speaks with is asking the same question about the same content. During those moments, the teacher can either become a parrot and repeat the same information over and over, or the teacher can simply teach a whole class lesson around the concept. For the sanity of the teacher, it is recommended that they simply teach the lesson to the whole class.

The fifth and final lesson that blended educators should learn is to partner up with another educator or with a group of educators that is also implementing a blended learning model in the classroom. The collaboration that comes between educators who are implementing blended learning models in their classrooms is invaluable. These individuals will be a sounding board when things are not going well, and they can

provide suggestions from their own classrooms that may help with common struggles. When things are going well, they will also be the ones that celebrate the successes and will truly understand what those success mean.

These five lessons can be very helpful to educators who are new to the Station Rotation blended learning model. The lessons can help ease the uncertainty that comes with beginning something new. By learning to be flexible and to take time to learn with the students, the pressure of having to have everything run perfectly at the start lessens. Educators can begin to enjoy the journey towards a successful blended learning implementation along with their students.

It takes a lot of consideration and work to successfully implement a Station Rotation blended learning model in the classroom. It is not a model that is perfected overnight, but rather a work of art that is slowly shaped over time. As this masterpiece develops, it will begin to transform into a classroom that is filled with students who demonstrate an excitement for learning and who become independent learners. It is exciting to watch as this learning model unfolds into something that supports students in all of their different learning styles, ability levels, and academic challenges. Each day in this model will present an excitement and a challenge in itself; enjoy the journey.

REFERENCES

Aerschot, L. V., & Rodousakis, N. (2008). The link between socio-economic background and Internet use: barriers faced by low socio-economic status groups and possible solutions. *Innovation: The European Journal of Social Sciences, 21*(4), 317-351. doi: 10.1080/13511610802576927

Andrew, L., Maslin-Prothero, S., & Ewens, B. (2015). Enhancing the online learning experience using virtual interactive classrooms. *Australian Journal of Advanced Nursing, 32*(4), 22-31.

Assessment & Teaching of 21st Century Skills. (2014). Assessment *& Teaching of 21st Century Skills*. Retrieved from http://www.atc21s.org/

Babb, S., Stewart, C., & Johnson, R. (2014). Applying the seven principles for good practice in undergraduate education to blended learning environments. In L. Kyei-Blankson & E. Ntuli (Eds.), *Practical applications and experiences in k-20 blended learning environments* (pp. 192-212). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-4666-4912-5.ch013

Bagby, M. (2014). The flipped approach: Past research, practical applications, and experiences in K-12 science and math classrooms. In L. Kyei-Blankson & E. Ntuli (Eds.), *Practical applications and experiences in k-20 blended learning environments* (pp. 91-104). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-4666-4912-5.ch007

Ben-David Kolikant, Y. (2009). Digital students in a book-oriented school: Students' perceptions of school and the usability of digital technology in schools. *Educational Technology & Society*, *12* (2), 131–143.

Benson, V., & Anderson, D. (2010). Towards a strategic approach to the introduction of blended learning: Challenges faced and lessons learned. *British Journal of Educational Technology, 41*(6), E129-E131. doi: 10.1111/j.1467-8535.2010.01066.x

Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day.* Washington, DC: International Society for Technology in Education.

Bersin, J. (2004). *The blended learning book: Best practices, proven methodologies, and lessons learned.* San Francisco, CA: Pfeiffer.

Blended Learning Toolkit. (2015). *Evaluation resources.* Retrieved from https://blended.online.ucf.edu/evaluation-resources/

Briceño, A. & Nemecek, D. (2013). *How do teachers become deeper learners?* Retrieved from http://www.p21.org/news-events/p21blog/1270-how-do-teachers-become-deeper-learners

Butrymowicz, S. (2012, June 12). *Promise of the 'flipped classroom' eludes poorer school districts.* Retrieved from http://hechingerreport.org/content/promise-of-the-flipped-classroom-eludes-poorer-school-districts_8748/

Chandra, V. & Fisher, D. L. (2009). Students' perceptions of a blended web-based learning environment. *Learning Environments Research*, 12, 31-44. doi:10.1007/s10984-008-9051-6

Chen, W. (2012). An investigation on varied types of blended learning environments on student achievement: An experimental study. *International Journal of Instructional Media*, *39*(3), 205-212.

Clayton Christensen Institute for Disruptive Innovation. (2015, August). *Proof points: Blended learning success in school districts*. Retrieved from www.christenseninstitute.org

Colorado Department of Education. (2010). *Colorado Department of Education*. Retrieved from http://www.cde.state.co.us/

Colorado Department of Education. (2014). *Colorado Department of Education*. Retrieved from http://www.cde.state.co.us/

Common Core State Standards Initiative. (2015). *Common Core State Standards Initiative.* Retrieved from http://www.corestandards.org/.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches.* Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* Upper Saddle River, New Jersey: Pearson Education Inc..

Driscoll, T. F., III. & Petty, K. A. (2014). Student-driven education with flipped learning and 20-time. In L. Kyei-Blankson & E. Ntuli (Eds.), *Practical applications and experiences in k-20 blended learning environments* (pp. 120-136). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-4666-4912-5.ch009

Dziuban, C. D., Hartman, J. L., Cavanagh, T. B., & Moskal, P. D. (2011). Blended courses as drivers of institutional transformation. In A. Kitchenham (Ed.), *Blended learning across disciplines: Models for implementation* (pp. 17-37). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-60960-479-0.ch002

Education Elements. (2013). EdElements. Retrieved from http://www.edelements.com

Education Nation. (2013). *The creation of the standards*. [Video]. Retrieved from http://achievethecore.org/page/885/the-creation-of-the-standards-detail-pg.

Edwards, J., Crain, M., & Kalleberg, A. L. (Eds.). (2007). *Ending poverty in America: How to restore the American dream.* New York: The New Press.

EF Explore America (2014, April 11). *What is 21st century education?* [Video file]. Retrieved from https://www.youtube.com/watch?v=PAhU-lIpjSM%20

Francis, R. & Shannon, S. J. (2013). Engaging with blended learning to improve students' learning outcomes. *European Journal of Engineering Education, 38*(4), 359-369. doi: 10.1080/03043797.2013.766679

Fulton, K. P. (2012). 10 reasons to flip. *Phi Delta Kappan, 94*(2), 20.

Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York: Basic Books.

Glense, C., & Peshkin, A. (1992). *Becoming qualitative researchers: An introduction.* White Plains, NY: Longman.

Gregory, G., & Chapman, C. (2002). *Differentiated instructional strategies: one size doesn't fit all.* Thousand Oaks, California: Corwin Press, Inc.

Grincewicz, A. M. (2014). Designing quality blended courses. In L. Kyei-Blankson & E. Ntuli (Eds.), *Practical applications and experiences in k-20 blended learning environments* (pp. 43-55). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-4666-4912-5.ch004

Gu, X., Zhu, Y., & Guo, X. (2013). Meeting the "digital natives": Understanding the acceptance of technology in classrooms. *Educational Technology & Society, 16*(1), 11.

Harasim, L. (2012). *Learning theory and online technologies.* New York, NY: Routledge.

Hogan, R. (2011). Blended learning examples in education and chemistry. In A. Kitchenham (Ed.), *Blended learning across disciplines: Models for implementation* (pp. 74-98). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-60960-479-0.ch005

Horn, M. B., & Staker, H. (2015). *Blended: Using disruptive innovation to improve schools.* San Francisco, CA: Jossey-Bass.

Independence Institute. (2014, July). *School district partnerships help Colorado k-12 blended learning take flight* (Issue Paper 2-2014). Denver, CO: Kafer, K..

Interactive Educational Systems Design (IESD). (2009). National online survey of district technology directors exploring district use of Web 2.0 technologies. Retrieved from http://archive.lightspeedsystems.com/about/NewsDetails.aspx?Teachers-Driving-Web-2.0-Use-in-Schools

Ireland, J., Martindale, S., Johnson, N., Adams, D., Eboh, W., & Mowatt, E. (2008). Blended learning in education: Effects on knowledge and attitude. *British Journal of Nursing, 18*(2), 124-130.

Jacobsen, M. (2011). A case study of a blended doctoral program in educational technology. In A. Kitchenham (Ed.), *Blended learning across disciplines: Models for implementation* (pp. 173-189). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-60960-479-0.ch010

Johnson, G. (Producer). (2012). The flipped classroom as a vehicle to the future. Retrieved from http://www.youtube.com/watch?v=ZpHfTO8SW7U&list=PL0B34C03680F07263&feature=share&index=2

Johnson, L. W., & Renner, J. D. (2012). *Effect of the flipped classroom model on a secondary computer applications course: Student and teacher perceptions.* (Dissertation). University of Louisville, Department of Leadership, Foundations & Human Resource Education, Louisville, Kentucky.

Khan Academy. (2015). Retrieved from Khan Academy website: www.khanacademy.org

Khan, S. (2012). *The one world school house: education reimagined*. New York: Hachette Book Group, Inc.

Kiger, D., Herro, D., & Prunty, D. (2012). Examining the Influence of a Mobile Learning Intervention on Third Grade Math Achievement. *Journal of Research on Technology in Education, 45*(1), 61-82.

Kumi-Yeboah, A., & Smith, P. (2014). Trends of blended learning in k-12 schools: Challenges and possibilities. In L. Kyei-Blankson & E. Ntuli (Eds.), *Practical applications and experiences in k-20 blended learning environments* (pp. 1-17). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-4666-4912-5.ch001

Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: a gateway to creating an inclusive learning environment. *Journal of Economic Education*, *31*(1), 30-43. doi: 10.2307/1183338

Learning Accelerator. (2014). *Learning accelerator*. Retrieved from http://learningaccelerator.org/

LeNoue, M. D., & Stammen, R. (2011). Blending in: Moving beyond categories in digitally-mediated learning. . In A. Kitchenham (Ed.), *Blended learning across disciplines: Models for implementation* (pp. 208-227). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-60960-479-0.ch012

Lin, C.-P., Wong, L.-H., & Shao, Y. -J. (2012). Comparison of 1:1 and 1:m CSCL environment for collaborative concept mapping. *Journal of Computer Assisted Learning, 28,* 99-113.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Martyn, M. (2003). The hybrid online model: Good practice. *Educause Quarterly, 1*, 18-23.

Mason, R. (2005). Guest editorial: Blended learning. *Education, Communication & Information, 5*(3), 217-220. doi: 10.1080/14636310500350406

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation.* San Francisco, CA: Jossey-Bass.

McGraw Hill Education. (2015, July). *Wonders*. Retrieved from McGraw Hill Education website http://mhreadingwonders.com

Mossberger, K., Kaplan, D., & Gilbert, M. A. (2008). Going online without easy access: A tale of three cities. *Journal of Urban Affairs, 30*(5), 469-488. doi: 10.1111/j.1467-9906.2008.00414.x

National Center for Missing & Exploited Children. (2010). *Netsmartz workshop*. Retrieved from www.netsmartz.org

Ololube, N. P. (2011). Blended learning in Nigeria: Determining students' readiness and faculty role in advancing technology in a globalized educational development. In A. Kitchenham (Ed.), *Blended learning across disciplines: Models for implementation* (pp. 190-207). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-60960-479-0.ch011

Ortega Gil, P., & Arcos García, F. (2011). Blended learning revisited: How it brought engagement and interaction into and beyond the classroom. In A. Kitchenham (Ed.), *Blended learning across disciplines: Models for implementation* (pp. 58-72). Hershey, PA: Information Science. doi: 10.4018/978-1-60960-479-0.ch004

Orton-Johnson, K. (2009). 'I've stuck to the path I'm afraid': Exploring student non-use of blended learning. *British Journal of Educational Technology*, *40*(5), 837-847. doi:10.1111/j.1467-8535.2008.00860.x

Padayachee, P., & Harding, A. (2011). Towards alleviating the post-apartheid education crisis in South Africa. In A. Kitchenham (Ed.), *Blended learning across disciplines: Models for implementation* (pp. 112-131). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-60960-479-0.ch007 (CHAPTER 7A)

Partnership for 21st Century Skills. (2009). *P21 framework definitions.* Washington, DC: Partnership for 21st Century Skills. Retrieved from http://www.p21.org/

Partnership for 21st Century Skills. (2011a). *21st century skills map*. Washington, DC: Partnership for 21st Century Skills. Retrieved from http://www.p21.org/

Partnership for 21st Century Skills. (2011b). *P21 common core toolkit: A guide to aligning the common core state standards with the framework for 21st century skills*. Washington, DC: Partnership for 21st Century Skills. Retrieved from http://www.p21.org/

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon.9*(5), 1-6. doi: 10.1108/10748120110424816

Pulley, P. G. (2014). Blending face-to-face and technology: Implementing flipped k-12 classrooms. In L. Kyei-Blankson & E. Ntuli (Eds.), *Practical applications and experiences in k-20 blended learning environments* (pp. 105-119). Hershey, PA: Information Science Reference. doi:10.4018/978-1-4666-4912-5.ch008

Reiser, R. A., & Butzin, S. M. (1998). Project TEAMS: Integrating technology into middle school instruction. *TechTrends 43*(2), 39-44.

Remler, D. K., & Van Ryzin, G. G. (2011). *Research methods in practice: Strategies for description and causation.* Los Angeles, CA: Sage Publications, Inc.

Reynolds, P. H. (2011). *Above & beyond: The story of the 4cs*. [Video]. Retrieved from http://www.p21.org/our-work/resources/for-educators/1007-p21fablevision-film

Ross, K. C. (2014). Creating dialogical spaces in blended environments: A case study of classroom design in two English literature courses. In L. Kyei-Blankson & E. Ntuli (Eds.), *Practical applications and experiences in k-20 blended learning environments* (pp. 280-294). Hershey, PA: Information Science Reference. doi: 10.4018/978-1-4666-4912-5.ch019

Russo, A. (2001). E-learning everywhere. *School Administrator, 58* (9), 6.

Schoology. (July, 2015). *Schoology.* Retrieved from the Schoology website https://www.schoology.com/home.php

Scott, J. (2003). Don't forget the little people: A vision for an online kindergarten learning community. *T.H.E. Journal*. *30*(7), 40-43.

Singh, H., & Reed, C. (2001). A white paper: Achieving success with blended learning, retrieved from http://maken.wikiwijs.nl/userfiles/f7d0e4f0bd466199841ede3eea221261.pdf

Skills at Education Connection. (2015). *Skills at Education Connection.* Retrieved from http://www.skills21.org/

Snowball, J. D. (2014). Using interactive content and online activities to accommodate diversity in a large first year class. *High Education, 67*, 823-838. doi: 10.1007/s10734-013-9708-7

Sowash, J. R. (Producer). (2012). 5 things I wish I knew about the flipped classroom. Retrieved from http://vidbuk.com/en/video/4JPdGlyt6gg/5-Things-I-Wish-I-Knew-When-I-Flipped-My-Classmp4

Staker, H. C., & Horn, M. B. (2012). *Classifying k-12 blended learning*. Retrieved from Innosight Institute website www.innosightinstitute.org

Success Foundation. (2015). Success *Foundation*. Retrieved from http://www.d6successfoundation.org/

Tapscott, D. (2008). *Grown up digital: How the net generation is changing your world.* New York, NY: McGraw-Hill.

Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners.* Alexandria, VA: Association for Supervision and Curriculum Development.

Truitt, A. A. (2011). Bridging the digital divide: Technology use in low socioeconomic families. Unpublished study.

Vaughan, T. (2011). *Multimedia: Making it work*. San Francisco, CA: McGraw Hill.

Watson, J., Pape, L., Murin, A., Gemin, B., & Vashaw, L. (2014). Keeping pace with k-12 digital learning: An annual review of policy and practice. Boulder, CO: Evergreen Education Group. Retrieved from http://www.kpk12.com/wp-content/uploads/EEG_KP2014-fnl-lr.pdf

Walcott, H. (2005). *The art of fieldwork* (2nd ed.). Walnut Creek, CA: AltaMira Press.

Walne, M. B. (2012). *Emerging blended-learning models and school profiles*. In G. H. C. Foundation (Ed.). Houston: Community Foundation.

Zearn. (2015, July). *Zearn*. Retrieved from the Zearn website https://www.zearn.org/

APPENDIX A

NETSMARTZ PLEDGE CARD

My Rules for Internet Safety

Intermediate

I will use the Internet responsibly. That means making smart decisions about what I look at, who I talk to, and what I say. I pledge to be safer online by following these rules:

1. I will tell my trusted adult if anything makes me feel sad, scared, or confused.
2. I will ask my trusted adult before sharing information like my name, address, and phone number.
3. I won't meet face-to-face with anyone from the Internet.
4. I will always use good netiquette and not be rude or mean online.

signed .....

signed .....

NetSmartz Workshop
A PROGRAM OF THE NATIONAL CENTER FOR MISSING & EXPLOITED CHILDREN

Watch videos and play games at NetSmartzKids.org

Mis Reglas para la Seguridad en el Internet

Intermedio

Usaré el Internet de forma responsable. Eso significa que tomaré decisiones inteligentes sobre lo que veo, las personas con las que hablo y sobre lo que digo. Me comprometo a estar más seguro en línea siguiendo estas reglas:

1. Le contaré a mi adulto de confianza si algo me hace sentir triste, asustado o confundido.
2. Le preguntaré a mi adulto de confianza antes de intercambiar información como mi nombre, dirección y número de teléfono.
3. No me encontraré en persona con nadie que haya conocido en el Internet.
4. Siempre usaré buenos modales en el ciberespacio y no seré grosero ni ofensivo en línea.

firmado .....

firmado .....

NetSmartz Workshop
A PROGRAM OF THE NATIONAL CENTER FOR MISSING & EXPLOITED CHILDREN

Mire videos y juegue juegos en NetSmartzKids.org

APPENDIX B

TEACHER QUESTIONNAIRE

Teacher Questionnaire

School has been in session for a couple of months now, and you have been implementing blended learning in your class since the beginning of the school year. This questionnaire is designed to help you share your experiences over the past couple of months. This information will be used to help other teachers who will be using blended learning in the future.

Please take your time to answer each question fully. You have been given this questionnaire in an electronic format, so you will not be restricted to how much space you have to record your answers.

1. Explain how you first introduced blended learning to your students and some of the considerations and changes you made as you began your implementation.

2. What have been some of the challenges you have faced, and how did you overcome them?

3. What have been some experiences that went well with blended learning?

4. What are the most positive aspects of using the blended format to teach?

5. What are the least positive aspects of using the blended format to teach?

6. Is there any additional support, technology, or training you feel could be provided that could help you in using the blended format to teach?

7. What advice would you give a teacher considering using the blended format to teach?

8. Is there anything else you would like to share about your implementation of blended learning in your classroom?

APPENDIX C

STUDENT INTERVIEW

Student Interview Questions

You have been working on blended learning for a long time now. When you are in station-rotations, you have learned all about your computers and how to move from one station to the next. You have also learned how to use the computers to learn new things. We have invited you here today to share what you have learned. You are the experts at this, and we want to use what you know to help other teachers learn about blended learning.

Let me explain how this is going to work today. In front of you, there is a microphone. This microphone is going to record our conversation, so Mrs. Truitt can hear your great ideas later. When she listens to it, she will want to know who is speaking, so I am going to give you a number. Before you answer the question, just say that number, so Mrs. Truitt will be able to keep track of who is talking. She won't know your name, but she will know your number. Be sure to speak loudly and clearly and only one person at a time. Also, don't be afraid to say the good and the not so good things that you know about blended learning. We want to learn as much as we can about blended learning.

While we are sharing what we know about blended learning, we will also be sharing our opinions, so there is no right or wrong answer. Everyone's opinion does not have to be the same. It is okay to politely disagree with someone else's ideas.

Do you have any questions? *(Answer any questions the students have.)* Let's get started.

To help Mrs. Truitt hear all of your voices, let's all start by just saying our numbers one at a time, so she will know how many of us there are. *(Have each child say his or her number individually).*

Ask each question one at a time. Give plenty of wait time and opportunities to speak before going on to the next question. Remember to have the students say their number before answering.

Please take notes on any nonverbal behaviors that might help in understanding the students' responses. For example, were the students very excited or nervous? How did the students communicate with one another? Did they easily include everyone in the group, or were there students who seemed very shy in the group and needed more support to participate? Did the students appear to be comfortable sharing their ideas with the group? etc.

1. What is the best part of blended learning?

2. What is the worst part of blended learning?

3. Have you had any problems during blended learning? How did you fix them?

4. What advice would you give to students who have never done blended learning before?

5. Do you have anything else you would like to share about blended learning?

Thank you for sharing your thoughts with us today. Mrs. Truitt will take this conversation and use it to help other teachers who want to learn more about blended learning.

APPENDIX D

ADMINISTRATIVE OBSERVATIONS

Thank you for agreeing to observe my classroom! The purpose behind this study is to give educators and other individuals who are interested in the Station Rotation model of blended learning an opportunity to peek inside a classroom setting as this model is being implemented. This study will share the thought processes that go behind blended learning as it is being introduced, practiced, and mastered. The study will tell the story of a class of third graders who have not previously had the opportunity to experience blended learning. It will explore the day-to-day challenges that are revealed through the implementation of blended learning in my classroom. The perception of blended learning from the viewpoint of the third grade student will be shared, as will the considerations that the teacher had to make along the journey. Suggestions will be made to aid the novice educator in successfully implementing blended learning into the classroom.

By observing my classroom and sharing what you see, you will be an integral part of this study. When you are observing my class, please consider the following.

- Tell what is happening in the room.
- What are the students doing? What is the teacher doing? What interactions are you observing?
- Feel free to include rich, thick descriptions of what you observe to help paint a picture of what is happening in the room. Be specific. For example, you might include conversations you hear, interactions that are observed, a description of the atmosphere in the room, etc.
- Please do not make any judgements about what is happening; just record what you see.
- Are there any questions or enlightenments that you have during or after the observation?

These prompts are just general guidelines to help you as you observe the classroom. You do not have to answer each and every prompt. Just try to record what is happening in the room. Thank you!

APPENDIX E

INSTRUCTIONAL COACH OBSERVATIONS

Thank you for agreeing to observe my classroom! The purpose behind this study is to give educators and other individuals who are interested in the Station Rotation model of blended learning an opportunity to peek inside a classroom setting as this model is being implemented. This study will share the thought processes that go behind blended learning as it is being introduced, practiced, and mastered. The study will tell the story of a class of third graders who have not previously had the opportunity to experience blended learning. It will explore the day-to-day challenges that are revealed through the implementation of blended learning in my classroom. The perception of blended learning from the viewpoint of the third grade student will be shared, as will the considerations that the teacher had to make along the journey. Suggestions will be made to aid the novice educator in successfully implementing blended learning into the classroom.

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- What are the students doing? What is the teacher doing? What interactions are you observing?
- Feel free to include rich, thick descriptions of what you observe to help paint a picture of what is happening in the room. Be specific. For example, you might include conversations you hear, interactions that are observed, a description of the atmosphere in the room, etc.
- Please do not make any judgements about what is happening; just record what you see.
- Are there any questions or enlightenments that you have during or after the observation?

These prompts are just general guidelines to help you as you observe the classroom. You do not have to answer each and every prompt. Just try to record what is happening in the room. Thank you!

APPENDIX F

STUDENT QUESTIONNAIRE

Student Questionnaire

Thank you for helping me learn more about the blended learning in our classroom. Your answers will help other teachers know more about blended learning, too. Here are a couple of things you should know before you begin:

- There are no right or wrong answers to these questions, just your opinion.
- Please be honest and share both the good and the not so good things that you notice in our classroom. We will not know what to work on if we do not know what is wrong.
- Please do NOT write your name on this paper. I want to keep your answers anonymous, which means I will be able to learn about your thoughts, but I will not know who wrote it.
- If you do not understand what a question is asking you, please raise your hand, and I can explain it to you.
- Please write neatly and in complete sentences, so I can understand your answers.

Let's get started!

1. What do you like the most about blended learning?

2. What do you like the least about blended learning?

3. What is the easiest part of blended learning?

4. What is the hardest part of blended learning?

5. Do you feel like you learn more or less during blended learning than you do during the regular class time? Why?

6. If you could make an improvement (make something better) to blended learning what would you change?

7. What advice would you give to a student new to blended learning?

_____

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8. Is there anything else you would like to share about blended learning?

_____

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APPENDIX G

IRB APPROVAL LETTER

UNIVERSITY OF
NORTHERN COLORADO

Institutional Review Board

DATE:	November 10, 2015
TO:	Apricot Truitt
FROM:	University of Northern Colorado (UNCO) IRB
PROJECT TITLE:	[568552-3] A Case Study of the Station Rotation Blended Learning Model in a Third Grade Classroom
SUBMISSION TYPE:	Amendment/Modification
ACTION:	APPROVED
APPROVAL DATE:	November 10, 2015
EXPIRATION DATE:	November 10, 2016
REVIEW TYPE:	Expedited Review

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB has APPROVED your submission. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on applicable federal regulations.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of November 10, 2016.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX H

INFORMED CONSENT FORM—PARENTS

UNIVERSITY of NORTHERN COLORADO

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: A Case Study of the Station Rotation Blended Learning Model in a Third Grade Classroom

Researcher: Apricot Truitt, M.A. email: trui6765@bears.unco.edu , Educational Technology
Research advisor: Heng-Yu Ku, Ph.D.email: Heng-Yu.Ku@unco.edu, Educational Technology

Your child has the opportunity to be a part of a study that is designed to learn about the Station-Rotation Blended Learning Model and to share what is learned with other teachers. This study has enthusiastically been approved by our district and by our building principal!

During this study, I will ask all the students in our blended classroom to complete a short questionnaire about the Station-Rotation Blended Learning model that we have been using. They will get to answer this questionnaire at the start and at the end of the study. I will also ask our students to be a part of an interview with 5 or 6 other third graders. The questions your child will be asked will be all about blended learning in the classroom. In addition to this, the class will be videoed a couple of times during the study, so I can see what is really happening in the classroom while we are working on blended learning. I will not include any of your student's personal information in any of my reporting. During the interviews, your child will use a number instead of his/her name. When completing the questionnaire, your child will not put his/her name on the paper. Also, when I watch the video to see what is happening, I will not record the names of any students I am observing, and the video will not be shared with anyone outside of the study. In these ways, we can learn about how this model works in an elementary classroom while allowing all the participants to remain protected.

During the study, students will have the opportunity to experience the Station-Rotation Blended Learning Model. Throughout the study, your child will continue to learn the normal third grade curriculum. The only difference is that they will get to learn some of it on the computer, and they will get to talk about their experience with either myself, an administrator, or an instructional coach in the building. They will not miss out on any instruction to participate in this study.

By doing this study, I am hoping to contribute to the current knowledge about implementing the Station-Rotation Model in an elementary classroom. There have been many studies completed showing great success when using these models in middle school and high school. We are now going to experience this new learning in elementary school. Learning about these models can provide us with a model that will help our students learn. There are no risks involved by participating in this study, and no harm will come to those participating. All information gathered will be kept in a safe place and will be used for this study.

Please feel free to phone me if you have any questions or concerns about this research. Thank you for assisting me with this study.

Sincerely,

Participation in this study is voluntary. You may decide not to allow your child to participate in the questionnaire or the interview, and if (s)he begins participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Your student will still participate in the Station-Rotation Blended Learning Models within the classroom.

Having read the above and having had an opportunity to ask any questions, please sign below if you give permission for your child to participate in this research.

Child's Full Name (please print)	Child's Birth Date (month/day/year)
Parent/Guardian's Signature	Date
Researcher's Signature	Date

A copy of this form will be given to you to retain for future reference. If you have any concerns about your child's selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-2161.

APPENDIX I

ASSENT FORM—STUDENTS

UNIVERSITY of NORTHERN COLORADO

ASSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH

UNIVERSITY OF NORTHERN COLORADO

Dear Third Grader,

I am a student at the University of Northern Colorado, and I am doing research on blended learning in our classroom. That means I am studying how we do blended learning and what you think of it. I will be sharing what I learn with other teachers who want to do blended learning, too. I would like to ask all the third graders who participate in blended learning in our classroom to be a part of my study. If you want, you can be one of those students, too.

If you are a part of my study, you will get to answer some questions on paper that tell me what you think about blended learning. There are no right or wrong answers and your answers won't be graded. You won't even put your name on your paper. You will also get to participate in an interview that will be recorded, so I can hear your answers to questions about what you think of blended learning. I will write down what you say, but I won't write down your name. The interview will take about 15 minutes, and you will get to share your ideas with myself, our principal, our assistant principal, or one of our instructional coaches. You will answer the questions on paper during a PBIS time and do an interview during recess one day. I am also going to have a videographer come in and video our class while we are doing blended learning a couple of times, so I will also be able to look at the video later and really watch how we are doing with blended learning. During this time, you will just keep learning like we always do.

Being a part of this study won't help you or hurt you. Your parents have said its okay for

you to participate in my study, but you don't have to. It's up to you. Also, if you say "yes" but then change your mind, you can stop any time you want to.

Do you have any questions for me about my research? If you want to be in my research and share your thoughts about blended learning, please sign your name below and write today's date next to it. Thanks!

Mrs. Truitt

_____ _____

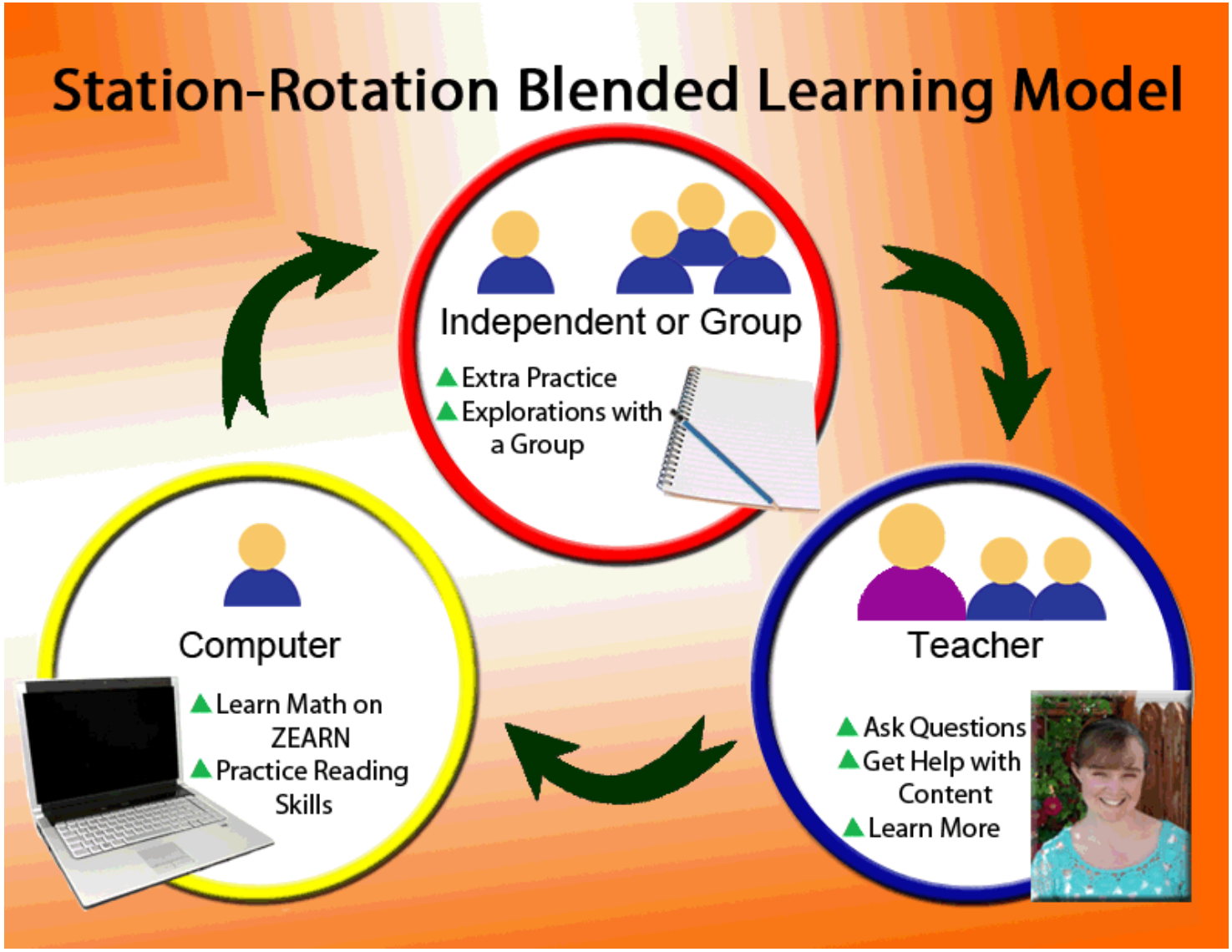
Student Date

_____ _____

Researcher Date

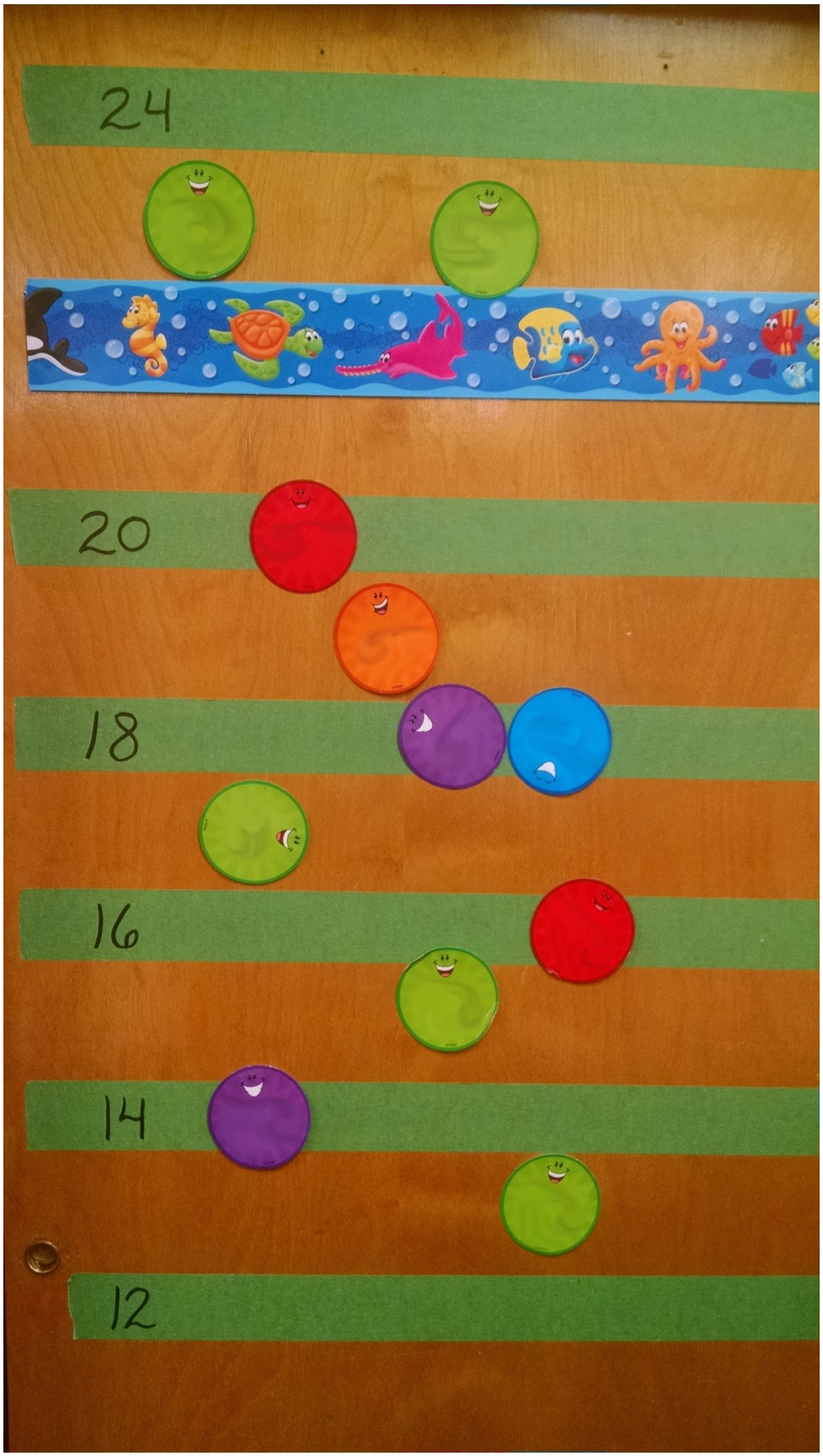
APPENDIX J

STATION ROTATION BLENDED LEARNING MODEL VISUAL


Station-Rotation Blended Learning Model
Independent or Group
Extra Practice
Explorations with a Group
Computer
Learn Math on ZEARN
Practice Reading Skills
Teacher
Ask Questions
Get Help with Content
Learn More

APPENDIX K

ZEARN PROGRESS GRID


24
20
18
16
14
12

APPENDIX L

STUDENT FOCUS GROUP INTERVIEW SETUP


1
2
3
4
5
1
2
3
4
5

APPENDIX M

DESMOND'S STORY

At the start of the year, Desmond was not able to really keep up with the swiftness of the class. I wondered if he really struggled with following English directions because even with the simplest directions, he would just look at me like he was trying to figure out what was going on. When he was expected to complete assignments or quizzes, he really struggled to complete them well.

As time progressed, Desmond began to understand the flow of the classroom and was beginning to be able to keep up with the class and to complete quizzes well. I saw a steady upward progress. In math, [he never behaved poorly] during our station-rotations. He would sit and would attempt to do his work.

After a while, he began to get more and more excited about what he was learning and was trying harder and harder to complete all of his lessons. Each day at the end of his technology time or at the end of math, he would come up to me and say, "Mrs. Truitt, today I finished lesson 14, that means now I only have 10 more lessons to go to be finished with Zearn!" I would congratulate him and encourage him to keep going.

When we began our digital homework to help students get through the curriculum easier, he would tell me how many lessons he wanted to bring home. The next morning, he would start each day by coming up to me and telling me what lessons he completed at home and how many lessons he needed to finish to be at the end of Zearn and to be able to work on Khan Academy. His excitement was so contagious! I loved seeing Desmond grab hold of his learning, set goals for himself, and work hard to meet those goals. All he needed from me was a listening ear and a "good job; keep going," and Desmond was able to take off with his learning.

APPENDIX N

TATE'S STORY

Tate is one of my academically struggling students. He is not doing well academically in any of his subjects, so school in general is hard for him. When we first began Zearn, Tate had a really difficult time keeping up with the class. He could not stay focused to do his independent work. He was not getting his digital homework done, and his mom just gave me a lot of excuses as to why he couldn't get his work done.

During the first mission, Tate only successfully completed maybe half of his lessons, so when it came time to complete the paper/pencil portion of the curriculum, he struggled greatly. As one can imagine, his scores on the math test also suffered.

As we began a new mission, Tate began to realize that if he just kept up with his lessons, the paper/pencil tasks, while still not easy, were at least more understandable. He also wasn't getting into trouble as often for being off task and not getting his homework done. One day, he shared with me that the work is so much easier if we just keep up. He declared that he was going to try to stay caught up to make it easier for himself.

APPENDIX O

OFF TASK BEHAVIORS

My math block today was probably one of the roughest blended learning math blocks I have ever taught. It just so happened to be the one my principal was observing, too. Let me tell the story. My math block started out like any other. The students came in from [targeted instruction] and got out their [blended learning] notebooks. They were a little bit wound up and were pulling out all of the students' notebooks to help [the other students get ready to learn], but after some redirecting, I was able to get them all to settle down a bit and gave directions about what assignment they needed to do in their blue math practice book (their "blue book" as we call it). Then, as I brought up the flipchart that has their groups on it, they got really loud, so I took a point from their hundreds chart. [The hundreds chart is a behavior management chart in which I give or take away points based on the class' behavior. The points earn the class rewards.] This helped a little, but they were still rather wound up. We got into their first station.

[This was the same day that was mentioned above in the Timing of Stations section in which the teacher miscalculated the amount of time the students were supposed to remain in each station.]

Due to [the] mistake [of misfiguring the time for each station], it seemed like the kiddos were in their station FOREVER. I could definitely see how the extra length of time really affected their behavior. The students would give their jobs a try for a short time period, but then got off task. I could also tell that the content in the independent blue books was harder than usual because I had many students who were avoiding the work by messing around.

I reminded them to get busy over and over again and finally asked them if they needed to be separated. At that point, they did decide to be separated, but then I had to keep helping each individual with the same question as another person—over and over again—because now they didn't have a peer available to bounce ideas off of.

Across the room, I was seeing the same thing even in the game station. Kiddos were too busy talking and wandering around to focus on their jobs. Yesterday, I had this one pair of kiddos who were really off task. The boy in the group was throwing cubes, and they were both off task. Today, I asked them if it would be wise for them to work together today. They thought they could handle it, and overall they did okay. I did have to remind them to work correctly a couple of times, but it wasn't bad. A different girl in particular was really not doing her work. Every time I came around, she was either off task or completely doing nothing … I offered to have her get a drink of water in the hallway, so she could refocus, but when she got back she was just as bad. There were times when she didn't even have her book open. I suppose I should have had her do a refocus form, but with so many people off task, it didn't really occur to me to do that today. [A refocus form is a paper that the students fill out to reflect on their poor behavior and helps them refocus and get back to work.] I really am not sure what was going on; it seems like such a weird day (and what a day to be observed!).

APPENDIX P

TARGETED INSTRUCTION CONSIDERATIONS

By looking at the class, it was very obvious that we are new at the Station Rotation model in this setting. The basic routines of beginning the regular targeted instruction group were very much in place (get a pencil, get your folder, sit down), but there is much work to do around the blended learning component. I need to figure out how to do a full rotation model with only 40 minutes. I think I was striving for more of a flex model in this setting because the kiddos work at such different paces, and the book study would lend itself to this model. However, I think that this may be too advanced of a model to try right now. Some questions I still have are:

- How can I implement a book study in a three Station Rotation model?
- Would I wrap the three rotations over a period of a couple of days?
    - Day 1: Station 1, Station 2
    - Day 2: Station 3, Station 1
    - Day 3: Station 2, Station 3
    - Repeat
- What would the three stations be?
- I know I could have a computer component with the digital content like I have been doing so far, but what would the other two groups look like?
- Could the independent group be the reading and question answering group?
- Could the teacher group be focused on vocabulary? The challenge with that would be that the teacher group would just be the same thing over and over; where would the differentiation be?
- Could I divide the large group into ability based groups? How or with what content could I differentiate the learning?
- Another challenge is if I am teaching a station, how can I support these new blended learners who may not be ready to work independently in a station?

Perhaps, I should develop an independent group, a collaborative group, and a digital content group. I could keep myself out of the rotation until we are very comfortable with how the model works and then I would be able to support the students better at first.

As I move forward with this, I believe I will divide my group into three groups. I will have one station contain digital content, one station will be an independent group, and one station will be a collaborative group. The digital content station will help the students learn more about a concept presented in the story via the use of technology. The independent station will be the station where the students read the text, answer the questions, and complete any projects the digital content may have prepared them for. The third station, the collaborative group, will have a project or problem that the group will need to complete. This may also be a good place to bring Socratic Seminar in, although I think a whole class mini-lesson on this may be helpful first. I may also bring in some fluency practice for kiddos who may still need to push their level of fluency a bit.

APPENDIX Q

TECHNOLOGY TUESDAY

It has also helped that [on] one of the nights that we have blended homework [the other third grade teachers and I have] created "Technology Tuesday." This is simply a time that we allow students to stay [after school] and work on the computers in class with the support of a teacher. The students use school devices and are able to get support when they need it. This came out of the concern that it is difficult for some of our families to access technology outside of school. The time commitment really is not bad for each of us. We only have to stay once every 3 weeks, and only for an hour. We ask the parents to sign a permission slip each week with updated information. If the students do not bring back a permission slip, they do not get to stay unless their parent calls in and gives verbal assent over the phone. We have also set it up that if the students are picked up late two times, they will no longer be able to participate in Technology Tuesday. We have only had two parents pick their students up late so far.

This has made it easier for the students who don't have computers at home. Unfortunately, the kiddos who are falling behind are not taking advantage of this.